FEEDSTUFFS

★ A WEEKLY NEWSPAPER ★

FOR THE FEED MANUFACTURER, JOBBER, BROKER and DEALER

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550 Hear Talks On Nutrition Work At Maryland Event

By J. W. MILLER
Feedstuffs Staff

WASHINGTON—A record total of 550 persons attended the Maryland Nutrition Conference here this week. Sponsored by the University of Maryland, the meeting annually places special emphasis on work in poultry and dairy nutrition.

Among the 14 topics on the two-day agenda at the Shoreham Hotel were reports citing additional evidence of the value of zinc supplementation in turkey rations, further work on fat levels and calorie-protein balance in formulating broiler feeds, and some observations on the coccidiosis problem.

(A complete review of the conference talks begins on page 52.)

"Need for supplementary zinc is affected by the calcium level of the poult diet type of protein used, and presence of zinc-coated equipment in rearing quarter, R. D. Creek, Maryland poultry husbandry staff member and conference committee chairman, said.

"Recent turkey trials show a clear-cut response to fish solubles, brewers yeast and zinc supplementation. The zinc response was small at 8 weeks, but highly significant at 20 weeks.

"In view of the high level required for toxicity, and the cheap cost, zinc supplementation with 35 to 50 p.p.m. seems advisable," Dr. Creek concluded.

Nine Maryland broiler trials in-

(Turn to MARYLAND, page 108)

Cuban Molasses Sale Reported

NEW ORLEANS — Unconfirmed "but usually reliable" sources were quoted by the U.S. Department of Agriculture Agricultural Marketing Service here this week as saying that Cuba has contracted to sell approximately 80 million gallons of 1959-crop blackstrap molasses for export to the U.S.

The price is quoted at 11¢ gal. f.o.b. Cuban port based on 52 sugars content with a premium for additional sugars up to a maximum of 57. The same trade sources indicate that among other contract terms, molasses shipped against these contracts by April 30, 1959, would receive a

(Turn to MOLASSES, page 109)

Planting Report Indicates Big Feed Grain Pile-up

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—Prospective crop plantings for 1959 announced this week by the U.S. Department of Agriculture are seen here as an indication of a further pile-up of feed grains if weather permits normal crops.

And if weather this year follows the favorable weather pattern of 1958, the accumulation will be huge, particularly in corn, for which USDA has reported intended acreage of nearly 84 million.

This increase in corn acreage—nearly 12% over last year—apparently is inspired by the over-all higher level of price support for the crop. There is a marked shift indicated from soybeans to corn, plus a return of more than 6 million acres from the acreage reserve provision of the Soil Bank. USDA officials are disturbed.

The huge potential of the corn crop, plus the size of the spring pig crop, adds to the woes of Secretary Benson. A top USDA official recently told a session of the Grain & Feed Dealers National Assn. here that accumulations of loan default grains in the hands of the Commodity Credit Corp. had not yet been halted, and presumably the surpluses would mount even further.

The indicated acreage for corn, along with a slight increase in barley acreage, more than offsets rather minor decreases in oats and grain sorghums. Feed grain acreage in prospect for 1959, at about 157 million acres, is nearly 5% larger than in 1958.

Given good weather during the coming growing season, the corn crop could total 4.25 billion bushels. An average crop, based on 1954-58 averages, would be 3.7 billion, and it is believed that even a poor crop year

(Turn to PLANTING, page 105)

Spring Pig Farrowing Shows 10% Increase Over Last Year

WASHINGTON—The increase in the 1959 spring pig crop appears to be about in line with farmers' previously expressed intentions, but the current expansion trend will carry over significantly into the 1959 fall pig crop, too.

This situation is shown in the U.S. Department of Agriculture's quarterly pig crop report, which covers nine Corn Belt states. These states —Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, South Dakota, Nebraska and Kansas—accounted for 67% of the 1958 U.S. pig crop.

The number of sows farrowed and intended to farrow in the spring of 1959 (December through May) for these states is 10% larger than in the spring of 1958. The number is now estimated at 5,558,000 head. This increase based on a March 1 survey of farmers, represents a decrease of less than one percentage point from

(Turn to FARROWING, page 109)

USDA Sees $12-14 Hog Price Range

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—U.S. Department of Agriculture officials say the now indicated increase in the spring pig crop reflects no major changes in projections the government had already made regarding swine for this year. (Also see accompanying story.)

However, there is one exception, and that is the bulge in summer farrowings which tend to throw more weight on the late period of the mar-

(Turn to HOG PRICE, page 109)

3% Cut in Egg-Type Chick Hatch Follows Prediction

WASHINGTON — A 3% drop in egg-type chick production last month compared to February of last year indicates that the predicted spring hatch reduction trend is under way. Egg-type chicks produced in February totaled 59,925,000. Last year's figure for the same month was 61,638,000. Another reduction in March is indicated, too.

It was indicated earlier by the U.S. Department of Agriculture, from Feb. 1 producers' intentions reports, that the cut might be only 1%. The Poultry Survey Committee anticipates a spring hatch reduction of 5-8%, compared to 1958, because of egg price declines since the intentions report.

Although the February hatch is 3% below last year's egg-type figure, the production total for both January and February of this year—95,352,000—is approximately the same as for the same two months last year.

The USDA hatchery production report anticipates a smaller hatch of egg-type chicks during March than a year ago. The number of eggs in incubators for flock replacement March 1 was 2% less than March 1, 1958.

USDA data shows that numbers of chicks hatched by commercial hatcheries were down in February, 1959, compared with February, 1958, in all regions except South Atlantic, East

(Turn to CHICKS, page 109)

Distillers Council Set For Feed Conference

CINCINNATI—Plans are all set for the Distillers Feed Conference, to be held March 25 at the Sheraton-Gibson Hotel here by the Distillers Feed Research Council.

The one-day meeting, which opens with registration at 9 a.m. and will conclude with a banquet in the evening, has 10 college and industry scientists scheduled as speakers. The afternoon session will be climaxed by a panel discussion with Dr. E. I. Robertson, chairman of the American Feed Manufacturers Assn. Nutrition Council, as moderator.

Speakers on the program are Dr. Robertson, who is director of nutrition for John W. Eshelman & Sons, Lancaster, Pa.; Dr. Norman Jacobson, dairy husbandry department, Iowa State College; Dr. Robert Grainger, animal nutrition department, University of Kentucky; Dr. J. K. Loosli, animal husbandry department, Cornell University; Dr. Damon Catron, animal husbandry department, Iowa State College; Dr. J. R. Couch, poultry science department, Texas A&M College; Dr. James Savage, poultry husbandry department, University of Missouri; Dr. L. C. Norris, poultry husbandry department, Cornell University; Dr. W. M. Beeson, animal science department, Purdue University, and Dr. Wise Burroughs, animal husbandry department, Iowa State College.

Presiding over the sessions will be Dr. Lawrence E. Carpenter, executive director of the Distillers Feed Research Council. Dr. C. S. Boruff, council president, will give the welcome.

FEEDSTUFFS *Features This Week*

BROILER NUTRITION: A 'Golden Year' feature spells out the past and future of broiler nutrition on **page 34.**

EQUIPMENT: A consulting engineer presents a collection of factors to consider before investing in added equipment on **page 42.**

PRINTING PLANT: Why a feed company operates its own printing department is told on **page 62.**

ANIMAL NUMBERS: U.S. farm animal population figures by states are charted on **page 80.**

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Balanced Supplies

FOR EVERYONE WHO HAS been watching with growing alarm the huge increase in the nation's grain surplus over the past few years, the question of the moment certainly is where do we go from here?

The U.S. Department of Agriculture this week reported planting intentions of farmers, the first solid indication of what the crop production picture is likely to be this year. Farmers, according to the USDA estimates, plan to plant nearly 84 million acres of corn, 12% more than last year.

With good growing conditions, acreage of this magnitude would yield a crop of nearly 4.25 billion bushels, and even a poor growing season could produce a crop of 3.3 billion bushels, according to estimates gathered from trade and government sources by Feedstuffs' Washington correspondent. There is little doubt that heavy accumulation of corn in the government stockpile will continue, barring a major catastrophe during the growing season.

Even the now-anticipated big increase in livestock numbers, particularly swine, could not be expected to consume all of the new corn likely to be harvested, and chances of moving the surplus already owned by the government into any normal consumption pattern appear now to be blocked for another long period ahead.

THE HEAVY PLANTING OF CORN now expected reflects the attraction of higher support rates for approximately 85% of the crop, the return to corn production of acreage not planted last year because of the acreage reserve program and the apparent decision of many farmers to reduce soybean acreage in favor of more corn acreage. Involved in these latter decisions without much doubt was the reduction in the support level for beans while corn supports were boosted.

Soybean acreage, on the basis of the intentions report, will be trimmed about 7% from 1958 acreage. Opinion had varied widely as to what would be likely to happen to bean acreage as a result of the change in price support levels for this crop and corn. Both government officials and some trade observers had felt that soybean plantings would be up to at least last year's level. The basis of this opinion was in some cases the expectation that plantings in "fringe" states would offset expected reductions in the major soybean producing states. However, market action since the intentions report was released appears to indicate that traders in futures, in total, had expected a bigger cut in soybean prospects. Prices for deferred months declined.

Production of soybeans this year could total about 520 million bushels, it has been estimated. This would compare with 1958 production of 574 million bushels. Even with heavy processing of beans in the current crop year, a fairly sizeable carryover is expected, so that total availability of beans in the 1959-60 crop year could very well be adequate. Again, however, adverse growing conditions could alter this outlook.

THE FEED INDUSTRY'S INTEREST in the grain and soybean production and market prospects, of course, has many facets, including its concern with farm programs in general. Of particular importance, however, is the prospective balancing of supplies of protein with grain supplies. Huge corn production may well be expected to further stimulate livestock production even at the risk of lower end product prices. At the same time, in order to attain most economical livestock gains, sufficient protein from oilseed sources must be available at proper price levels.

The answer to "where do we go from here?" on farm programs which upset production balances appears to be even further from being spelled out, and living with the situation is the lot of industries serving agriculture. Over-expansion of livestock production could seriously reduce margins and income for feeders, and properly balanced rations will be particularly essential to the welfare of these feed customers. It is in this area where feed men can continue to perform their services in spite of the handicaps imposed by the crop surplus.

This is why the industry will be watching closely the relationship of corn and other feed grain production to soybean production in the months ahead.

How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

Feed demand continued rather dull over the nation this week. Starter volume was not yet at a point where it had become much of a business factor, and feeders generally appeared to be operating on as low inventories as possible. About the only bright spot in the nation was the Rocky Mountain area, where good cattle prices and full feedlots brought good demand. Relatively unfavorable feeding ratios for most livestock and livestock products, however, kept any kind of urgency out of this week's picture. Although colorless, demand was said to be fairly good when compared with February and a year ago. The wholesale feedstuff price index was 86.1 this week, compared with 87 a week earlier and 83.8 a year earlier. The feed grain index was 65.7, compared with 65.1 a week earlier and 64 a year earlier. (Ingredient prices in detail on pages 106-108.)

Northwest

No real spring push is on as yet, feed mill representatives reported this week. But, as one representative pointed out, it isn't spring yet either. The conclusion from this is the one reported by most feed firms: That business isn't bad, but it isn't as good as they would like it to be.

Demand the past two or three weeks, while a little better than February, has not shown much improvement since the early part of March. One mill reported a sharp pickup in business this week after two weeks of relatively slow demand. Another saw a drop in business, while others saw business as moving along at a fairly steady pace.

Feeding ratios are generally poor, observers said, and there is no incentive for the feeder to operate at anything beyond minimum needs. Hog feed business is still good along with dairy feeds. Demand for starters is scattered and not yet much of a factor. Mills are generally getting in five full days a week, however.

Prices for the coming week are about unchanged.

Central States

A number of divergent influences were apparent among the factors influencing the pace of formula feed sales in the central states during the week ending March 18, but none were exerting enough force to provide much feature. Manufacturers said trade is fairly colorless.

The situation is described as a transition period. Prices fluctuate from week to week, without much significance, and most people in the industry seem to be waiting for spring business to develop to give direction. Poultry business is slow to come this year, they say, and cattle feeds, too, are not going as well as might be expected. Some plants are operating only four days this week.

On the bright side, however, observers say business is about as good as it was last year at this time, and 1958 was a record year. Prices are steady to slightly lower this week.

Southwest

Although the formula feed business in the Southwest has not picked up significantly, there seems to be a little better tone this week. Clear, warm weather for a change is generating a cautious optimism that feeds will start moving at a faster pace in the weeks ahead. Some mills report a slight improvement this week over last. However, this improvement seems spotty, one day business showing signs of "taking off" only to be followed by a day of very few orders. Running time is generally five days, two shifts, with several mills noting that if they were pressed they probably could get the same amount of feed out in less time.

There are signs that augur better business just around the corner. Pig starters are moving well. Chick starters have still not come into their own, but the volume is slowly improving. Turkey and chicken breeder rations are in fairly good demand, indicating many birds will be hatched. Cattle feed volume has fallen off, but there is still some moving since pastures have not developed rapidly because of the wintry weather. And hog feeds continue to be good "movers."

The late spring has possibly held back putting down of poults and chicks. Also, farmers and dealers have not been inclined to stock up since prices have not shown a tendency to bottom out and head for higher ground.

Price lists for next week will generally be unchanged, although there will be some feeds that may be down 50¢ and others that might be up $1.

South Central

Very little improvement in the dull pace of formula feed demand appeared this week. Orders for chick starter are more numerous, but most are for relatively small amounts. The continued weakness in egg and live poultry prices is said to be discouraging to growers who are planning new flocks.

Running time for most mills was off a little. Only a few plants are getting in a full week. The majority find it difficult to fill out four days. An unusual situation has arisen in that feed sales for this month may trail those of February. Mixers generally agree that last month's business was much better than expected, but that does not overcome their disappointment over the showing so far this month.

Northeast

Buyer hesitancy continued and sales of formula feed were just fair this week. There are no signs of a pick-up in sight. End products have been giving ground and this has contributed to some of the consumers' reluctance to buy.

Eggs are down and milk is off, but broilers seem to be holding their own and prices edged up a little. Levels in the East ranged from a high of 20¢ lb. to a low of 16¾¢, with an average range of 17 to 17½¢.

Egg mashes and dairy feeds accounted for the bulk of the sales turnover. Some starting and growing feeds were moved and a smaller amount of broiler and turkey feeds was sold.

Most grains were on the downside. Corn, however, continued to work higher and moved up 1¢. Receipts of corn in the East were only fair. Barley was weak and down 1¢. Feed wheat also gave up 1¢ but oats held about unchanged.

Animal tallow continued its strong rebound, rising to 7½¢ lb., with talk of even higher prices in the offing.

(Turn to **MARKETS**, page 111)

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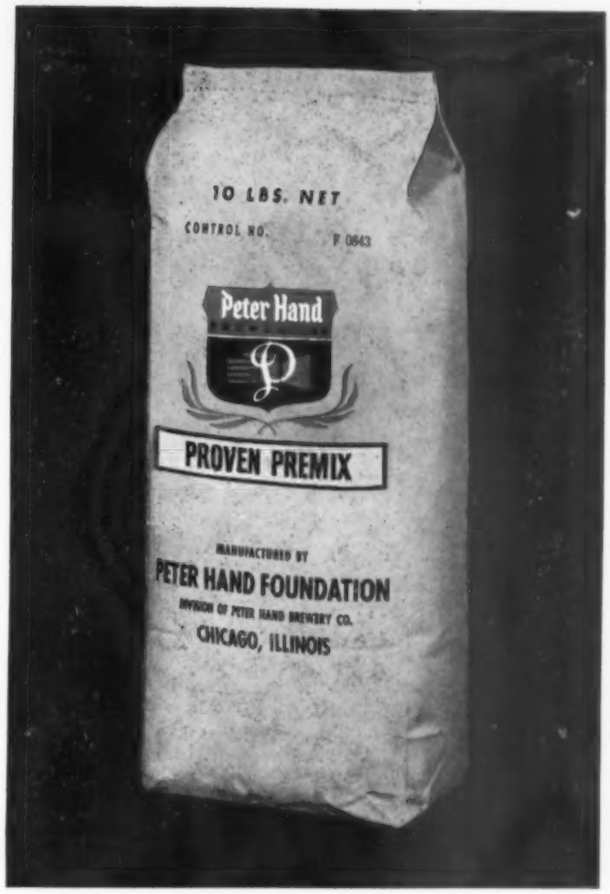

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Over-Expansion in Cattle Possible in Long Range Look

WASHINGTON — Cattle slaughter is expected to remain fairly stable this year, but over-expansion of cattle numbers is possible over a longer period, according to the U.S. Department of Agriculture's March livestock and meat situation report.

The report emphasizes the importance of watching cattle trends carefully during the next year or two. Cow slaughter has been sharply reduced since last July, indicating efforts by producers to build up their herds.

An increase of 3⅓ million head during 1958 upped the U.S. cattle inventory to 97 million Jan. 1, 1959, but, according to the USDA, this larger inventory is not expected to result in much increase in slaughter this year because more heifers and heifer calves than a year ago will likely be retained for breeding, and many steer calves will be held until next year. If withholding continues strong, over-expansion could result, the USDA warned.

Cattle numbers will continue upward this year, and the inventory for next January will hit a new peak, the USDA predicted. This cyclical expansion is not expected to result in any great change in cattle prices in the next year or two because marketings are not likely to rise greatly during this period. Prices are, however, expected to change some by late spring or summer, with a seasonal upturn likely to follow later in the year.

The 1959 inventory offers hope that production and price trends may be reasonably smooth and orderly. The rather large number of young beef stock added to inventories will make it possible to maintain slaughter rates and beef output at a fairly high level. No huge expansion in beef production and output is in sight for several years because cow numbers are not yet large.

A collapse in cattle prices, the USDA explained, usually comes fairly late in the expansion phase of the cattle cycle because breeding herds must first be built up, then the calf crop increased and, finally, a year or two later, cattle slaughter expands.

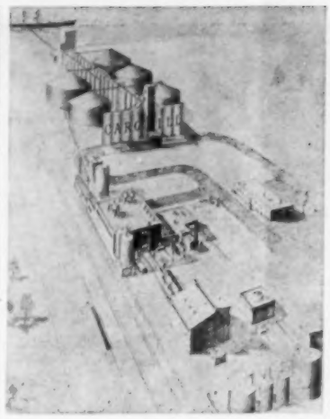
Fed cattle for slaughter through early spring will remain large in number and heavy in weight, reported the USDA. This situation will likely keep fed cattle prices under pressure, but there is the probability that about mid-summer, when the bulk of the cattle now on feed has been marketed, there will be a new upturn.

P. S. Catir Promoted By Eastern States

SPRINGFIELD, MASS. — Eastern States Farmers' Exchange has announced the promotion of Philip S. Catir to feed purchasing at its mill in Buffalo, N.Y. Mr. Catir was formerly manager of the agricultural chemicals purchasing and production department at Eastern States headquarters in West Springfield, Mass.

Philip S. Catir

A graduate of the University of Maine in business administration and former assistant in potato growing in Aroostook County, Maine, he began his career with Eastern States as a service center trainee in 1951 at Presque Isle, Maine. He was later promoted to the post of assistant in agricultural chemicals and then was named manager of the purchasing and production department for agricultural chemicals.



CARGILL PLANT — This sketch shows the new soybean plant being built by Cargill, Inc., at Norfolk, Va., in the foreground. In the background is the firm's export grain elevator as it will appear with its present 2.25 million bushel capacity increased to 4.5 million.

Construction Begins On Large Cargill Soybean Plant

SOUTH NORFOLK, VA. — Construction of a soybean oil-and-meal plant "to boost 50 to 60% the bean crushing capacity of a five-state production area" was begun here recently by Cargill, Inc., Minneapolis grain handling and processing firm.

At ground breaking ceremonies shared by South Norfolk city officials and Virginia and Carolina state agriculture officials, the firm simultaneously announced details of the processing plant and plans to expand its Norfolk grain export elevator from a present capacity of 2.25 million bushels to more than 4.5 million bushels. The soybean installation, which the firm said will be a multi-purpose extraction, storage, domestic merchandising and exporting center, is being built adjacent to the elevator.

Completion of the plant is scheduled before the soybean harvest this fall. It will be a solvent extraction plant designed for initial conversion of 7 million bushels of soybeans yearly to 10 million gallons of oil and 170,000 tons of meal, according to Fred M. Seed, vice president in charge of Cargill's vegetable oil division.

Mr. Seed estimates present total crushing capacity of Virginia, Maryland, Delaware and North and South Carolina at "about 12 million bushels."

Grain elevator expansion, much of which is required by accelerated soybean procurement plans, will include two 1-million-bushel steel tanks and 13 smaller tanks totaling 325,000 bu.

FEWER HATCHERIES, BUT MORE EGG CAPACITY

★

WASHINGTON—There were 16% fewer chick hatcheries operating at the outset of 1959 than at the beginning of 1957, but egg capacity was slightly larger.

The number of hatcheries producing chicks decreased from 5,045 Jan. 1, 1957, to 4,257 Jan. 1, 1959, while chick hatchery capacity went from 528,563,000 to 530,057,000 over the same period. Most of the decrease in chick hatcheries, according to the U.S. Department of Agriculture, occurred in the size groups of less than 100,000-egg capacity.

Hatcheries reporting poults hatched in 1958 totaled 1,027 compared with 1,007 reporting poults hatched in 1956. Total capacity used for hatching poults in 1958 totaled 68,089,000, compared with 52,751,000 in 1956.

Poultry Promotion Feed Tax Aired at Connecticut Session

HARTFORD, CONN. — Opposition to a proposed tax on all poultry feed sold in Connecticut to finance advertising and promotion of the state's poultry and eggs was registered at a recent public hearing before the agriculture committee of the General Assembly.

One poultryman said it was unfair for farmers to be asked to finance a program under which "the only profits would be derived by processors." He said farmers have no problem selling poultry now.

Another grower said per capita consumption has been increased without the state advertising. "It's increased because prices are cheap," he said.

Bills considered by the agriculture committee would provide for a mandatory tax of 1¢ per 100 lb. of poultry feed sold in the state and would set up a Connecticut Poultry Products Promotional Council to administer the program.

Although the Connecticut Poultry Assn. earlier had endorsed the plan originated by Litchfield County poultrymen, it did not support the bill at the hearing. It was explained that a poll conducted by the C.P.A. drew 193 returns from 2,200 questionnaires, with 89 of the returns favoring the plan and 104 opposing it.

Edmund Ruwet, Torrington, chairman of the Connecticut Poultry Promotion Committee, said he believed the poll was not a fair indication of the feeling in the poultry industry. He contended that those who opposed the bill worked harder in getting out the vote than those in favor.

Joseph N. Gill, state agriculture commissioner, said the promotion is an economic necessity. The New London County Farm Bureau favored the principle, but took no position on the checkoff.

Clarence St. Germain, Old Lyme, representing Wirthmore Feeds, remarked that he believed lack of interest in the referendum was due to the fact that there are few independent growers left. The opinion was expressed by another person at the hearing that most growers favoring the plan are small egg producers.

It was reported that members of the Poultrymen's Cooperative of Connecticut "overwhelmingly" opposed the proposal in a referendum of their own.

Mr. Ruwet noted that the proposed checkoff would raise 10 times as much for promotion as has been possible to get through voluntary contributions.

December Fish Meal Output Up Sharply

WASHINGTON—Fish meal and scrap production in the U.S. and Alaska moved sharply upward in December, 1958, over the same month of 1957, the Fish & Wildlife Service reports.

Production was 15,000 tons, a jump of 72% over a year earlier.

It was not enough, however, to change the production figures much for the calendar year. Meal and scrap manufactured during 1958 totaled 217,000 tons, 10% less than 1957.

The manufacture of fish solubles during the month of December totaled 11 million pounds, 75% more than the amount reported during the same month of 1957. Production of homogenized-condensed fish totaled 1.6 million pounds—a gain of 79%, compared with December, 1957.

FIRE DESTROYS MILL

MOUNTAIN HOME, ARK.—Fire destroyed a feed mill, two large broiler houses, a large storage building and some 26,000 broilers owned by Harvey H. Richards here. Mr. Richards estimated his loss at more than $25,000.

Co-op Formed to Run Soybean Mill

VAN BUREN, ARK. — A regional cooperative to own and operate the soybean processing mill being built in Van Buren was formed at a meeting of farm cooperative officials in Van Buren.

The organization will be known as the Cooperative Processing Assn. Officers are Howard A. Cowden, Kansas City, president; Jack White, Van Buren, vice president, and Homer Young, Liberty, Mo., secretary. Bruce H. McCully, Kansas City, is chairman of the executive committee.

Mr. Cowden, Mr. Young and Mr. McCully are officials of Consumers Cooperative Assn., regional cooperative of which the Farmers Cooperative & Elevator in Van Buren is a member.

Raymond Robus, now of Pella, Iowa, will manage the new plant. He has had charge of feed sales for Consumers Cooperative Assn. in Iowa during the past year. Prior to that he was manager of the Farmers Cooperative Exchange at Pella for 10 years.

Mr. White, who manages the Van Buren Coop, said the new mill will be owned by the cooperatives in Van Burean, Cave Springs, Rogers, Gravette and Bentonville and the regional organization. He said the mill will represent an investment, including working capital, of about $1,350,000, and is expected to be ready for operation by Sept. 15. The mill will process about 2 million bushels of soybeans annually, he said. The beans will come mostly from farmers in western Arkansas and eastern Oklahoma.

Employment Up in California Mills

SAN FRANCISCO — Employment in grain processing mills and feed plants in the state rose during the first nine months of 1958, reports the California State Department of Employment.

Persons employed in plants manufacturing prepared feeds for animals and fowl increased from a low of 3,900 in March to a high of 4,200 in July, but dropped again seasonally to 4,100 by September. The number of firms manufacturing such prepared feeds numbered 165 at the beginning of the year, dropped to 163 and rose again by September to 167.

More than one third of these plants were located in the Los Angeles area —an average of 62 throughout the year employing a monthly average of 1,900 persons. In the San Francisco area there was an average of 21 feed firms employing 300 persons.

In the grain mill products division of the industry—firms preparing flour and other mill products—employment held steadily at about 1,900 persons and 26 firms throughout the year. In a miscellaneous grain mill production classification—milling of wet corn, rice, blended flour and cereal production—employment rose from 1,500 to 1,600, with an average of 30 firms.

Farm, garden and supply stores showed a seasonal rise of from 5,600 persons in January to a peak of 6,800 in June, followed by a drop to 5,900 by September. The number of such stores increased from 1,253 to a peak of 1,284, dropping again to 1,274.

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PR Approach to Problems Urged at Quad State Session

By GEORGE L. GATES
Editor of Feedstuffs

SIOUX CITY, IOWA — Ways of meeting industry problems in the areas of public relations and in dealing with government regulations were explored by speakers at the Quad State Grain, Feed & Seed Convention March 16 at the Sheraton-Martin Hotel.

"Getting together" on plans and programs was the theme of the formal program, and "getting together" socially was very much a part of the gathering. A social hour and dance March 15 preceded the convention program, and a banquet and entertainment wound up the event. Registration totaled 650, according to Don Suttie, Corn Belt Supply Co., president of the Sioux City Grain, Feed and Seed Assn., which sponsors the Quad-State gathering.

The value of association work to individual feed companies was stressed by three speakers, and other discussions covered government farm programs and the plight of the railroads in meeting truck competition.

Mountain of Problems

"We in agriculture have accumulated a veritable mountain of problems in need of public relations attention," James C. North, president of Nutrena Mills, Inc., told the audience.

He pointed out that in order to keep a feed business going today, one must operate at least one or more other businesses successfully — such things as the banking business, livestock production, transportation and livestock marketing.

He described "the business of public relations" as a new dimension in agriculture and "another business we must get in and run successfully."

"The future in this field is tremendous," Mr. North said. "You and I have had and will have many opportunities to tell our own individual company stories. We should use these opportunities to tell the larger story of our industry and to promote the industry's position on major, national issues."

He noted that national, regional and local feed associations have already started on more extensive public relations endeavors.

Forty years ago the term "public relations" had not yet been invented, and every businessman was his own "consultant," Mr. North said. "In the horse and wagon days, if there moved into a frontier town a shoemaker, a blacksmith or a hay and grain dealer, the problem of knowing his customers and being known by them was relatively simple. He was probably the only shoemaker or blacksmith or feed man in town. The town itself contained only 100 or so people, and the countryside it served held at best another 100. Customers came in person to a businessman's shop or mill and were more than willing to exchange opinions and pass the time of day. They saw and understood the workings of his establishment.

No Simple Situation

"Today, even in so-called small, country towns, no such simple situation exists. For a small town does not contain a hundred or so people, but more likely a couple of thousand. The area it serves, extended enormously by automobiles and highways, contains hundreds or thousands more. A feed dealer has no end of competitors, and they are not just the handful in his own home town, but those in each of the adjacent towns. His public relations problems are enormously complicated. There is neither time on his part nor on the part of his customers for individual telling and understanding.

"It is to this task, the telling of a total story and dozens of individual stories, that present-day public relations effort can be effectively devoted. Such simple definitions of public relations as 'being a good guy and getting credit for it' are not without some truth, but they do more harm than good, for they make it all sound like child's play. But child's play, I assure you, is one thing it is not."

Mr. North said that the groups that make up agriculture were relatively unaware of public relations in its early stages and they have been among the latest to see benefit for themselves in its organized, professional practice.

The American Feed Manufacturers Assn. was formed more than 50 years ago in response to a need for a "spokesman," Mr. North said. "Its main purpose then, as now, was public relations in the broadest sense."

Among the public relations problems being tackled by the AFMA is feed credit and financing, he said. "The need for improved financing exists in every production area, and can only be achieved through vigorous cooperative effort," he said.

Mr. North noted that the AFMA and its late chairman, Oscar Straube, had done an excellent job of presenting the feed industry's case during the 1957 investigation of the poultry industry. "But surviving a single congressional investigation is not the end of our troubles," he said.

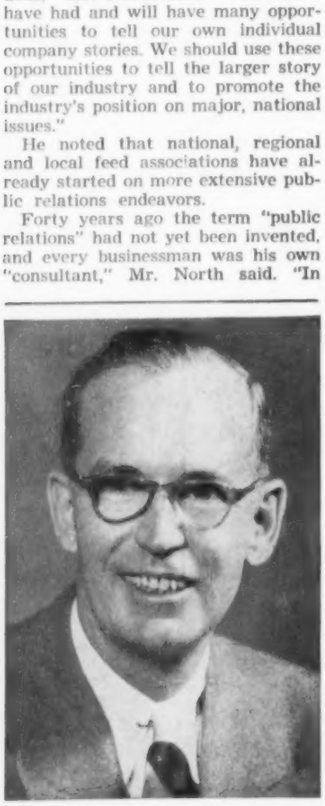
"We must, through the kind of public relations effort that industry associations can exert, be constantly informing the public about our business and our services. When accusations come, we must be ready with qualified spokesmen and a fully-documented industry case."

The industry's public relations effort is not confined to negative situations, Mr. North said. "Individual companies are doing much through their own public relations efforts to accustom farmers to technological change, and to assist them either in making the transition or in finding low-cost production methods through which to resist it. But it is essentially an industry phenomenon, and public relations effort by the industry can do much to pave the way for its coming."

Railroad Problems

The railroad industry cannot be expected to attain economic health so long as it is being "treated as a step-

(Turn to QUAD STATE, page 110)



W. A. Donnelley

NEW PRESIDENT—W. A. Donnelley has been elected president of National Alfalfa Dehydrating & Milling Co., succeeding Henry A. Hofmann, who resigned. Mr. Donnelley has been with National Alfalfa since 1954, and previously was president of Cerophyl Laboratories, alfalfa dehydrating firm purchased by National.

H. S. Stockwell L. T. Spence

Two New Positions Announced by Merck

RAHWAY, N.J.—Expansion of sales and service activities in agricultural products of Merck & Co., Inc., Rahway, has resulted in creation of two new positions. L. T. Spence has been named products manager of medicated feed supplements, and H. S. Stockwell, products manager for Merck nutritional items.

Both will report to D. K. Richards, agricultural products manager for the chemical division of Merck.

Mr. Spence, a native of Arlington, N.J., received his bachelor of science degree in animal husbandry from Rutgers University and joined Merck in September, 1951.

Before his association with Merck, he was in feed sales, covering an eastern territory. His assignments with Merck have been principally concerned with agricultural sales and marketing. Among the products in his area of responsibility are those for medicated poultry feeds, including the coccidiostats and the antihistamonads.

A native of Wakonda, S.D., Mr. Stockwell graduated from Huron College and taught high school business law. Joining Merck in 1951 after many years of sales experience in other fields, Mr. Stockwell served as a sales representative for medicinal products.

In 1954, he assumed the responsibility for sales of agricultural products on the Delmarva Peninsula until his transfer to the home offices, where since 1954 he has served as assistant to the agricultural accounts manager and assistant agricultural products manager.

Staley Milling Makes 2 Staff Appointments

KANSAS CITY, MO. — Two new staff appointments were recently announced by Staley Milling Co., division of Spencer Kellogg & Sons, Inc., Kansas City.

Robert R. Axelson, for 10 years manager of Brentwood Egg Co., Kansas City, a division of Safeway Stores, and for the last year assistant to the president of Tranin Egg Products Co., Kansas City, has been named manager of Staley's contract feed department.

It was announced by Thomas W. Staley, president of the Staley Milling Co. division, that Mr. Axelson would handle contractual feeding arrangements, a field which has been expanding in the last several years.

Mr. Axelson, a graduate of the U.S. Naval Academy, Annapolis, is well known in the poultry field.

Dr. Clyde E. Smith, who until Feb. 15 was professor of veterinary science, University of Tennessee, has joined the company's service staff.

Dr. Smith, a native of Tennessee, obtained a B.S. degree from the University of Tennessee in 1948, and a doctor of veterinary medicine degree from Alabama Polytechnic Institute in 1953.

His title with Staley Milling Co. is field veterinarian and he will be working out of the office in Kansas City.

Freight Cut Asked For Alfalfa Meal

KANSAS CITY—Proposals for reducing railroad freight rates for dehydrated alfalfa meal and pellets from origins in Colorado, Kansas, Missouri and Nebraska to destinations in the Southeast were discussed at a March 17 meeting in Kansas City.

Representatives from the major dehydrated alfalfa blending companies and other individual processors met with representatives of four railroads serving the area to consider rate adjustments necessary to keep the trucks and river barge lines from taking any more business away from the railroads and possibly winning back some of the lost volume.

The railroad representatives from Missouri Pacific, Union Pacific, Burlington, and Santa Fe lines reportedly displayed a genuine willingness to understand the problems of the dehydrators and to do something about solving them.

50% in Three States

W. C. Newman, general traffic manager for Archer-Daniels-Midland Co., Minneapolis, presented a prepared statement pointing out that approximately 50% of the total production of alfalfa meal is in the states of Nebraska, Kansas and Colorado, and that much of the meal is used in making broiler feeds which are fed in the Southeast. Mr. Newman said that ADM had been forced to ship an increasing quantity of dehydrated alfalfa into the Southeast by truck in order to meet the competition of other alfalfa processors who have established or are establishing barge and truck terminals.

"Unless the rail carriers take immediate action to reduce rail costs we will be forced into establishing our own facilities for handling via

(Turn to FREIGHT CUT, page 110)

Ames-Burns Announces Change in Officers

JAMESTOWN, N.Y.—Ernest C. Kessler was elected chairman of the board of directors of Ames-Burns Co., Jamestown grain and feed firm, at its annual stockholders meeting here recently.

James D. Ditzler, former vice president, succeeds him as president.

Other officers elected at the meeting include George F. Kessler, first vice president; James S. Ditzler, second vice president; Keith W. Bailey, treasurer; Howard E. Chadwick, secretary, and Miss Edna F. Craig, assistant secretary.

Ernest Kessler has been with the firm since 1906, two years after it was founded. He will continue with the firm in an active and supervisory capacity.

James S. Ditzler has been with the company since 1924, and Miss Craig has been an employee since 1913.

Ames-Burns has its headquarters in Jamestown, and operates branch offices in Youngstown, Ohio, and Watertown and Albany, N.Y.

Georgia Pig Sale

MACON, GA. — The first quality graded feeder pig sale in Georgia is scheduled for March 31 at the Cochran sale barn near Macon, according to Harold V. Clum, extension livestock marketing specialist.

Mr. Clum said the sale will offer upwards of 1,000 head ranging from 25 to 130 lb. A free barbecue will be served at noon, and Phil Campbell, Georgia commissioner of agriculture, will appear as guest speaker.

FEED MAN HOSPITALIZED

JOPLIN, MO.—Alton (Bill) Bowers, president and general manager of Marco Mills, Inc., Joplin, is in St. John's hospital here with a heart condition. He is making satisfactory progress.

Broiler Supply Chicks Increase

WASHINGTON — The indicated placement of pullet chicks for broiler hatchery supply flocks in February continued to run ahead of a year earlier.

Leading primary breeders of broiler replacement stock reported an indicated placement of 2,414,000 chicks during February, 6% more than in February, 1958. January's indicated placement was also 6% ahead of the same month a year earlier.

Of the February total, 2,256,000 chicks were domestic placements. Pullet chick placements during January, 1959, totaled 2,108,000, of which 1,940,000 were domestic placements.

The totals include pullet chicks sold during the month, plus the number of pullet chicks expected from eggs sold during the preceding month. The conversion from eggs to expected pullet chicks was made on the basis of 125 pullet chicks per case of hatching eggs sold.

Primary breeders included in the report account for a very large percentage of total supply of replacement pullets for broiler hatchery supply flocks, and sales of replacement pullets by these breeders provide an indication of the potential number of pullets available for addition to hatchery egg supply flocks several months before the pullets will actually move into the flocks.

Oilseed Meal Futures Take Irregular Trend

MEMPHIS—Oilseed meal futures prices were irregular on the Memphis Board of Trade the past week, compared with the previous week.

An easing tendency during the last part of the previous week was reversed March 16, as short covering and speculative buying developed prior to President Eisenhower's report on the Berlin situation that night. This influenced a sharp upturn in futures.

However, follow-through was lacking March 17 and many gains were erased in the next two days as trade selling met only indifferent demand.

Proximity to the last trading day in current March resulted in nervous fluctuations in old crop positions, with contracting and expanding on differences between current and deferred old crop months.

Feed business was reported good in most sections, with some areas citing an encouraging pickup. For the most part, demand is still lighter than supplies.

Unrestricted soybean oil meal closed March 18 95¢ lower to $1.20 ton higher than on March 11, Eastern Trunk Line soybean oil meal $2.50 lower to $2.50 higher, bulk solvent cottonseed oil meal 25¢ lower to $1 higher, and sacked old process cottonseed oil meal unchanged.

NEW DIAGNOSTIC LAB

HELENA, MONT.—A measure recently given final passage by the Montana legislature appropriates $100,000 for a start on construction of a $290,000 livestock diagnostic laboratory at Montana State College.

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Repairs Begin After Fire in House to Be Straube Memorial

MANHATTAN, KANSAS—A $30,000 fire in the fraternity house that will become the Oscar Straube Scholarship House near the Kansas State College Campus here will result in the property being more valuable.

The college administration recently completed negotiations to buy the house from the Kappa Sigma Fraternity with funds contributed by the feed industry and the Straube family as a memorial to the late Oscar Straube, president of Pay Way Feed Mills, Inc., Kansas City. The sale stipulated that the house had to be turned over to the college in as good or better condition than at the time of sale. Since the building was fully insured by the fraternity, all necessary repairs and rejuvenation will be completed before the structure becomes the Oscar Straube Scholarship House. It is planned that the transfer will occur in May, 1960, when the fraternity completes a new house it is planning to build.

Damage to the house consisted of burned joists, chopped holes in the floor through which firemen poured water on the blaze in the basement and water and smoke damage, mostly on the first floor of the three-story building. It will be necessary to replace the floor joists, put in a completely new floor in the dining room and paint and fix-up throughout the house. Work has already started to make the house livable.

The fire started shortly after 1 a.m. March 17 in the furnace room with an explosion. The 47 students in the house fled and firemen had the blaze under control by 2:30.

"The house will be better off than before the fire," the fraternity president was quoted as saying by the college newspaper.

More Chickens Tested For Pullorum Disease

WASHINGTON—In the states for which comparisons are available, 2,363,505 chickens for supplying broiler hatching eggs were tested for pullorum disease during February, 1959—up 84% from February, 1958, according to the U.S. Department of Agriculture.

Testings for July, 1958, through February, 1959, were up 26% from this period a year earlier.

Chickens for other purposes (egg-type) tested during February, 1959, totaled 756,079—66% more than the number tested in February, 1958. The number tested for July, 1958, through February, 1959, totaled 11,893,848, approximately the same as the number tested during this period a year earlier.

Opens K.C. Office

KANSAS CITY—John Heimovics, general sales manager, Shanzer Mfg. Co., San Francisco, producer of grain drying and handling machinery, has opened an office at 20 on the Mall, Prairie Village, Kansas, a suburb of Kansas City. Mr. Heimovics will make his headquarters at this office.

Allan Mackay Dies

SAN GABRIEL, CAL.—Allan E. Mackay, 55, formerly with General Mills, Inc., and more recently manager of the Los Angeles bag plant of Continental Can Co., died March 17 following an illness of about a year.

Mr. Mackay was with General Mills about 25 years, spending time in Minneapolis and Kansas City, where he was engaged in purchasing activities. He moved to California to join Continental Can more than 10 years ago. He is survived by his mother, his wife and a son and daughter, all of San Gabriel, and a brother of Spokane, Wash.

Mutual Millers Advised on Meeting Agricultural Change

By PAUL L. DITTEMORE
Feedstuffs Staff

BUFFALO — "Meeting the Challenge of Today's Agriculture" was the title of the principal address presented on the program of the annual meeting of the Mutual Millers & Feed Dealers Assn., held at the Hotel Statler March 4.

George C. Greenleaf, coordinator of the elevator and farm supply course, Michigan State University, Lansing, Mich., was the speaker. The challenge of today's agriculture, he told the assembled millers and feed dealers, is that American agriculture currently is being revolutionized from a way of life to a business. Millers and feed dealers, he said, have got to meet that challenge by growing from tradesmen to businessmen.

Mr. Greenleaf detailed several areas in the operation of a feed mill or a farm supply store that could stand some attention.

Planned purchasing of supplies and materials, he said, will permit greatest use of a company's working capital. He stressed the importance of increasing stock turnover and avoidance of large inventories after the sales season for specific supplies.

Pricing

As to pricing, Mr. Greenleaf said that "too few farm supply store operators really know their selling costs." He said that the merchandisers should keep a good set of records, especially on custom services such as grinding and mixing.

The importance of a sales training program for mill and store employees was stressed by Mr. Greenleaf. Other sales aids he mentioned were merchandise display units, special events, regular radio programs, regular employee meetings, and establishment of customer-call goals. In

(Turn to MILLERS, page 109)

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Formula Feed Again 29% of Milk Cows' Concentrate Feed

WASHINGTON — Approximately 5.7 million tons of formula feed were fed to milk cows on U.S. farms in 1958, according to a report issued by the U.S. Department of Agriculture. Mixed feeds accounted for approximately 29% of the total concentrate feeds fed to milk cows.

These figures are based on USDA's annual report on concentrate rations fed to milk cows.

Farmers fed milk cows a total of some 19.8 million tons of grain and other concentrates in 1958, the report showed. This total was exceeded only by the record quantity fed in 1957.

The report also showed that in the better-than-average herds kept by USDA's dairy reporters, commercial mixed feed represented 28.8% of the total concentrate ration. If it is assumed that the same percentage holds for all milk cow herds in the U.S., the formula feed total for milk cows in the U.S. would be some 5.7 million tons, as indicated above.

The mixed feed percentage of 28.8 for 1958 represents a slight decline from the 1957 percentage, 29.2.

Little Change

For several years, the percentage has held at about 28 or 29. Thus, this USDA report again indicates that it will take new nutritional or feed processing and handling developments to bring any substantial increases in mixed feeds' share of the total amount of grain and other concentrates fed to milk cows.

Some of the data, including state figures, from the USDA report will be found in the accompanying tables. From the figures on concentrates fed and percentages of different types of feeds, one also can determine approximate mixed feed and other tonnages for the individual states.

The tabular material shows clearly the wide variations in feeding practices in different areas—particularly the differences between the heavy grain-producing areas and the feed deficit areas. For example, while a total of some 2.5 million tons of grain and other concentrates was fed to milk cows in Wisconsin in 1958, commercial mixed feed represented only 7% of the total; in some of the northeastern dairy states, on the other hand, formula feed represented about 70 to more than 90% of the total in herds kept by dairy reporters.

USDA noted that slightly more grain and concentrates were fed in the east north central and western regions during 1958 than in the year earlier, but less were used in other sections. Wisconsin led all states in the amount of concentrates fed. Other leading states included New York, Minnesota, Pennsylvania and Iowa.

One Ton Per Cow

The annual feeding rate reached 1 ton per cow in 1958. Milk cows on farms were fed an average of 2,003 lb. of grain and concentrates. This was 3% above the previous record high in 1957. In 1958, the quantity fed per milk cow ranged from 2,263 lb. in the north Atlantic region to 1,662 lb. in the south central area. (Also see Table 1.)

Compared with 1957, feeding rates gained more than for the nation as a whole in the north central regions, while smaller percentage gains were reported in other areas. The amount fed per milk cow in 1958 varied from 3,830 lb. in Florida, where larger quantities of citrus pulp were fed, to 1,210 lb. in Nevada.

In herds kept by dairy reporters, grain and concentrates were fed to milk cows at a record high rate on the first of each month in 1958. The daily average for the year as a whole was 7.22 lb. per cow in these better-than-average herds, compared with 6.94 lb. in 1957.

Farmers reported feeding an average of 31.6 lb. of grain and concentrates per cwt. of milk produced, the same as in the previous year. The amount of ration fed per 100 lb. of milk ranged from over 40 lb. in the southern regions to 25 lb. in the West.

Corn, oats and commercial mixed dairy feed made up over four fifths of the components of the rations fed to milk cows in 1958. (See Table 2 for details.) Corn and oats accounted for more than three fourths of the rations in the north central (grain) states, and mixed feeds made up well over half of the total fed in the north Atlantic and western regions.

Home-Grown Feeds

Of the total grain and concentrates fed milk cows by dairy reporters in 1958, 50% was grown on their own farms, compared with 49% in 1957. Home-grown feeds again predominated in rations in the heavy grain-producing areas of the Midwest, accounting for almost three fourths of the rations in the north central regions. Home-grown feeds accounted for one third of the total ration in

(Turn to FORMULA FEED, page 105)

NEW OFFICERS—Shown are the recently-elected officers of the Columbus Feed Club. They are (left to right, front row): John E. Wiant, chairman, the Ohio Grain Co., Mechanicsburg, Ohio; R. Willis Liston, co-chairman, the Eshelman Grain Co., Columbus; Cleon C. Welch, secretary, Columbus, and Paul Steckmen, director, Columbus. In the back row (left to right) are: Franklyn Harris, sergeant-at-arms, the Eshelman Grain Co.; Henry E. Pruyn, national publicity, National Distillers Products Co., Columbus; Ted Metz, director, Continental Grain Co., Columbus, and H. Ralph Kagay, director, the Mill Mutuals, Columbus.

Texas Reports Khapra Beetle Infestation

Infestations of the destructive khapra beetle have been reported in seven additional properties in El Paso, Texas, and in three grain storage plants in New Mexico.

Guy Orr, federal pest control branch representative, said at El Paso that the insect presumably was brought into the area in grain shipped from infested areas. He said an expanding investigation is being conducted of all establishments which have shipped grain to or received grain from infested parts of the country.

The insect came to southern California in 1953 from its native India, and since that time has spread to Baja, California, Arizona and New Mexico. The recent El Paso infestation marks the first in Texas, according to John White, agricultural commissioner of the state.

Specialists at El Paso have issued warnings against the use of old feed sacks, and advised dealers to have sacks fumigated before allowing them on their properties.

Entomologists called the beetle "the most destructive pest of stored products" they have seen, and according to one reference, the larval hairs may cause trouble if swallowed.

Eradication of the insect must come through fumigation of entire infested buildings. In the meantime, business concerns which have an infestation are allowed to continue operation by having grain leaving their storage facilities fumigated.

New Mexico has set up an emergency fund to battle the infestation in that state, and an appropriation bill before the present legislature would provide another $50,000 for the work.

Dawe's Clinic Covers Sales Management

HIGHLAND PARK, ILL.—Various aspects of feed selling received attention this week from several experts at the annual sales management clinic sponsored by Dawe's Laboratories, Inc., Chicago. The event, attended by feed manufacturers from a wide area, was held March 15-18 at the Moraine Hotel in Highland Park.

The feed men heard talks on such things as sales management, generating sales ideas, financing feed sales at the local level, sales supervision, sales policy on special rations, merchandising nutrition research, motivating salesmen, and coordinating egg production and marketing. Chairmen of the sessions were Frank McBride and Dr. Morris Erdheim of Dawe's Laboratories.

Speakers included Dr. Ralph L. Baker, Pennsylvania State University; Garland E. Benton, Southern States Cooperative, Richmond, Va.; Dr. Walter Glista, Wirthmore Feeds, Inc., Waltham, Mass.; Simon Heemstra, McMillen Feed Mills, Ft. Wayne, Ind.; Richard Lapata, Marketing Management, Inc., Chicago; T. R. McGuire, Federal Intermediate Credit Bank, St. Louis; Fred Palmer, sales consultant, Worthington, Ohio; Dr. E. I. Robertson, John W. Eshelman & Sons, Lancaster, Pa.; Raleigh Soloman, Citizens National Bank, Macomb, Ill.; R. W. Waite, Jr., Dannen Mills, Inc., St. Joseph, Mo.

Gasoline Tax Rebate Ruling is Announced

WASHINGTON — The Internal Revenue Service has ruled that federal tax rebates on gasoline used on farms will not be available to milling companies which purchase farm crops and perform the harvesting operations on the farm, using their own equipment and employees.

This ruling covers instances involving alfalfa crops, and bars from rebate tax payments both the farmer on whose land the operations take place and the milling company.

Jim Bryan John Hooper

Personnel Changes Made by Save Way

FT. WORTH—A promotion and two new appointments have been announced by Save Way Feed Mills, which has its general offices in Ft. Worth.

G. F. Cleaver

Jim Bryan has been promoted to sales manager of the firm, whose mill is at Chickasha, Okla. He formerly was sales manager in Oklahoma. John H. Hooper has joined Save Way as division coordinator, and Goodrich F. Cleaver has joined the company as comptroller.

The announcement was made by Paul R. Ray, vice president of Chickasha Cotton Oil Co., parent firm.

Mr. Bryan joined Save Way in 1956 as a sales representative in northeast Texas. He has been associated with the feed industry for many years.

Mr. Hooper's new position will involve being responsible for co-ordinating purchasing, traffic, production, nutrition and research at Save Way's new mill in Chickasha, Okla. He has been employed with the Borden Co., Superior Feed Mills, Ubiko Milling Co., and Balfour, Guthrie & Co.

Mr. Cleaver is a native of Chicago, and a 1938 graduate of Northwestern University. He also holds a M.S. in business administration from Stanford University. He served in the U.S. Air Force from 1942 to 1957, when he joined General Dynamics Corp.

Mr. Cleaver also has been appointed secretary-treasurer of Poultry & Livestock Finance Corp., a wholly owned subsidiary of Chickasha Cotton Oil Co.

FRESNO MEETING HELD

FRESNO, CAL.—Members of the lower San Joaquin Valley district of the California Hay, Grain & Feed Dealers Assn. met March 19 at the Desert Inn, Fresno.

MORE TURKEYS TESTED FOR PULLORUM

WASHINGTON — Considerably more turkey breeders were tested for pullorum disease during February, 1959, than a year earlier, according to a report from the U.S. Department of Agriculture. The report noted that testings of heavy white breeds were up 101% from February, 1958, and that testings of other heavy breeds, mostly broad breasted bronze, were up 97%. The testings of light breeds were up 54% from February, 1958. The numbers of turkeys tested during February were heavy white, 97,720; other heavy breeds, 196,269, and light breeds, 77,281. During the months July, 1958, through February, 1959, testings of heavy white breeds were 57% larger than during these months a year earlier. During the same comparative period testings of other heavy breeds were down 1%, and testings of light breeds were up 40%.

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Caution Urged for Cattlemen As Inventories Move Upward

DENVER — Marketing experts have been sounding a combined note of optimism and caution over the recent buildup in U.S. cattle numbers, which reached an all-time high on Jan. 1.

The optimism stems from a belief that cattlemen are more aware of the dangers facing them than they were in 1948-53 when the buildup set the stage for low prices the following couple of years. Given orderly marketing this year, the experts say, 1959 prices could be good for cattlemen.

Caution comes of the fact that past cattle cycles have had a "pyramiding" effect, with each year building on the increases of previous years. For 1960 and beyond there is the possibility of trouble.

One of the groups warning of the potential danger, but softening it with some optimism for 1959, is the American National Cattlemen's Assn., Denver, in a report issued recently. The report is based on the cattle inventory as of Jan. 1, 1959, released by the U.S. Department of Agriculture. (Feedstuffs, page 42, Feb. 28.) Also indicated in the association's report are some changes in the geographical trends in beef raising.

"Analysis of all factors in the annual cattle numbers report gives cattlemen several indications of danger ahead—as well as reasons for relief that the renewed upswing of the cattle cycle was not as abrupt as some had feared," the association stated.

Pointing out that the USDA inventory shows 96,851,000 cattle of all types on the nation's farms and ranches the first of the year, an all-time record, the association said this exceeds the 1956 record inventory by only 47,000 head. It is an increase of 3,501,000 head from the 1958 estimate of 93,350,000.

(For a study of the poultry and livestock inventory by states, see page 80 of this issue.)

The 1959 estimate represents an increase of 20,021,000 from the bottom of the previous inventory cycle in 1949, or an 11-year boost of about 26%. It also represents a jump of about 4% from the 1958 "bottom" of the new cycle on which experts predict we are embarking, the association said.

The association report pointed out further that total cattle numbers, and categories within the total, indicate little significant deviation from the years back through 1953, "indicating that the substantial annual boosts from 1948-49 are not occurring—yet."

The jump in cattle numbers in 1958 of 3½ million head compares with the one-year boosts of about 6 million head in both 1951 and 1952.

"A closer look at the figures for beef cattle reveals that 1959's 64,025,000 head is an increase of 4,088,000 (about 7%) over 1958's estimate of 59,937,000—and a boost of 23,023,000, or 56%, from the previous low in 1948," the report said. "It also represents an increase of 1,958,000, or 3%, from the cycle's previous high in 1956."

Greater one-year increases were experienced in 1951, 1952 and 1953, the association points out.

The beef cattle category showed substantial increases from 1958 to 1959 in many states. The Southwest and the southern Great Plains had some strong gains, as did the corn belt. But only one southern state, Florida, had any noticeable gain over last year. Almost all other southern states were down from 1958, or were only slightly changed.

Beef cattle numbers showed their biggest increase of one year in the north central states, roughly the corn belt. This area, representing more than one third of all the nation's cattle, had a gain of 1,993,000 head, about 7%.

While the South had a slowdown during the year, it is still responsible for a sizeable portion of the 1948-59 buildup. The South's additional 5,659,000 head represents an increase of about 95% since 1948 and an increase of 3.6% in the percentage the South's beef cattle herd represents of the national total.

"However," the association report said, "the north central area, with an increase of 11,462,000 (68.7%) since 1948, is certainly of more interest—mainly because the growth in this large area has been less publicized and dramatic than that of the South. The north central area now represents 43.9% of all beef cattle, as compared to 40.6% in 1948."

Meanwhile, the 11 western states had a 3,725,000 increase (37.8%) from 1948, but they lost a part of their share of the national beef herd. In 1948 these states had 24% of all beef cattle. In 1959 it is 21.1%.

Cow Numbers

The association report said a fear that beef cow numbers were zooming skyward is not borne out by the Jan. 1 estimates. Although beef cow numbers increased during the year, the current figure is still 75,000 below the all-time high in 1955. The one-year increase also is considerably less than those in each of the years 1950-54.

Beef heifer numbers show a similar situation. Though up 12.5% over a year earlier, this is still less than the 1951-52 increase. The number of heifers Jan. 1, however, were 287,000 higher than 1953's previously high inventory.

Some spectacular gains in calf and steer numbers were also noted by the association—again through the Great Plains and Midwest, with California and Colorado also showing increased feeding.

"Observers point out that past cycles have had a 'pyramiding' effect, each year building on the increases of previous years," the report said. "This would indicate that, although the 're-

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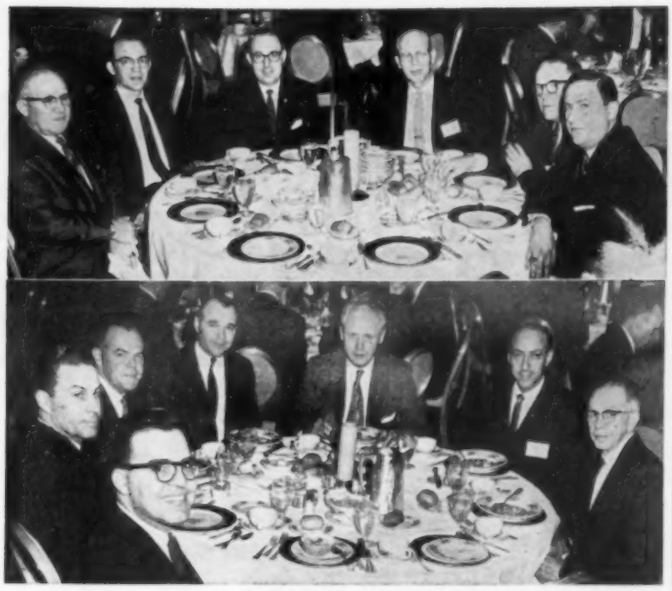

AT WASHINGTON WORKSHOP—Some of the secretaries and other officials of feed and grain organizations who attended the "Washington Workshop" of the Grain & Feed Dealers National Assn. include (left to right): First picture —Vern Badrick, director, Western Grain & Feed Dealers Assn.; Congressman Merwin Coad, Iowa Democrat; Robert Skinner, secretary, Western Grain & Feed; Ray Pollack, director, grain branch, Commodity Stabilization Service; Bill Brooks, president, National Grain Trade Council, and Robert Couch, president, Western Grain & Feed Assn.; second picture—H. L. Sharp, secretary-treasurer, GFDNA; Forrest Beal, deputy administrator for price supports, Commodity Credit Corp.; Robert Hanson, deputy director, grain division, CSS; Alvin E. Oliver, executive vice president, GFDNA; Marvin McLain, assistant secretary of agriculture; Dr. J. L. Krider, vice president, Central Soya Co., and Ed Heron, secretary, Illinois Feed & Grain Dealers Assn.

bound' from last year's low point has not been as great as cheap feed and low slaughter might indicate, the 1960 count may find the industry with an awesome 100 million cattle.

"However, there is evidence to indicate that slaughter will be heavier this year than last, that stockmen are more alert to the danger of a fast buildup and are more aware of the need for orderly marketing, and that increasing demand can absorb some of the increase—factors not necessarily present in the 1948-53 'explosion' in cattle numbers."

To Build Feed Mill

EUREKA, S.D.—Stockholders of the Eureka Equity Exchange at a recent meeting voted to construct a feed mill with an attached seed cleaning unit. Present plans call for the construction of the $185,000 facility this summer by Hogenson Construction Co., Minneapolis. The unit will provide feed grinding and pelleting, and the seed cleaning unit will meet requirements for certified seed cleaning.

FEED STORE CHANGES HANDS

CAMAS, WASH.—Mr. and Mrs. G. T. Price have sold the local Hi-Way Feed & Seed Store at Camas to Richard Robson and Ray Malfait. The new owners are now operating the firm. Mr. Malfait and family live on a Woodburn farm, and Mr. Robson also operates a farm in the same area.

Mr. Warehouseman—

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1. Bird, H. R.: Coming Events in Poultry Nutrition. Hatchery & Feed, July, 1958.
2. McGinnis, J. et al.: Use-history of Antibiotics as Related to Their Efficacy in Promoting Growth of Turkeys. Poultry Science, in press.
3. Whitehair, C. K.: Medicated Swine Feeds. North Am. Vet. (Am. J. of Vet. Sci.) 39 (No. 2) (Feb. 1958): 32.

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Turkey Hatchability Factor Tests Run At Texas Station

COLLEGE STATION, TEXAS — The addition of unidentified hatchability factor sources produced increased hatchability of fertile turkey eggs in tests conducted at the Texas Agricultural Experiment Station.

Highest hatchability values were obtained when combinations of two or three of the sources—fish meal, liver "L," distillers dried solubles, condensed fish solubles, dehydrated alfalfa meal, dried whey and dried brewers yeast—were included as supplements in the breeder diet. Such combinations maintained hatchability at high levels for as long as 17-24 weeks, while the hatchability without these supplements dropped to extremely low levels after the first 8-12 weeks of the laying period.

A review of the work done in nutrition of turkey breeder hens at the Texas Agricultural Experiment Station since 1950 is presented in Bulletin 914, published by the station. Investigations included tests with Broad Breasted Bronze and Beltsville small white turkeys reared to maturity on the range or on wire floors. Various combinations of unknown hatchability factor sources, vitamins, antibiotics and antioxidants have been fed in an attempt to improve the reproductive performance of the turkey breeder hen.

Increased hatchability was obtained by the addition of unidentified hatchability sources at levels of 3-5% to the diets of Broad Breasted Bronze and Beltsvilie small white turkey hens.

Addition of supplemental vitamin E (D-alpha-tocopheryl acetate) to turkey breeder rations, in the presence of unidentified factor sources, produced an additional increase in the hatchability of eggs. Unidentified hatchability factor sources included in the diet resulted in a decreased embryonic mortality during the first and last weeks of the incubation period.

Test results indicate that unidentified hatchability factors and antioxidants included in the diet do not affect the tocopherol content of the yolk. Addition of vitamin E (in a stable form of D-alpha-tocopheryl acetate) inproved the hatchability of eggs from hens fed an all-vegetable protein diet, without unidentified factors. These data indicate that natural feed ingredients may not contain vitamin E in a sufficient amount or in a form which is available for use by the turkey hen.

The experiment station bulletin reports that embryos from hens fed an all-vegetable protein diet, without supplemental vitamin E, had cataracts and bulging eyes, and a high per cent of these embryos died during the last week of the incubation period. Addition of vitamin E to the turkey hen diet reduced this embryonic mortality and prevented blindness.

Addition of dried brewers yeast, alfalfa meal and fish solubles, singly and in various combinations, as supplements to an all-vegetable protein diet resulted in increased egg production in two experiments. The average amount of feed required to produce an egg ranged from 1.12 to 1.66 lb. The combination of dried brewers yeast with condensed fish solubles produced the best results in these two studies.

Canada Makes Changes In Standards for Hogs

OTTAWA—Major changes in record of performance for purebred swine to make the tests more useful have been announced by officials of the livestock division, Canada Department of Agriculture.

Among the changes is the removal of qualifying standards for sows and boars, which were based on carcass desirability only. Reducing the emphasis on carcass score should result in more attention to the economically important factors of feed utilization and age for weight, according to department officials.

The term "qualified for advanced registry" will be discontinued. In its place, an average will be provided for each station or province for: (1) Age for weight, (2) carcass score, and (3) feed utilization.

Deciding the merits of a breeding pig will be left to the judgment of the individual farmer or breeder. The department will limit its part to providing the facts brought out by the tests.

Changes in the system of carcass scoring are designed to place still greater emphasis on desirable leanness, officials said. To do this, certain factors, such as type and balance, will be dropped and points for area of loin and low back fat will be increased.

In a move to get a more direct representation of breeders on its advisory board, the department is asking each test station committee to appoint a breeder representative to the board. It will also include representatives of national breeder organizations.

The changes will be applied to animals tested with groups farrowed after Jan. 1 this year.

Demonstration Farm Supervisor Named

KANSAS CITY—F. Dean McCammon, director of a new division organized recently by Consumers Cooperative Assn., Kansas City, will supervise a demonstration farm under development near Trimble, Mo., and swine testing stations at Eagle Grove and Ida Grove, Iowa, the association has announced.

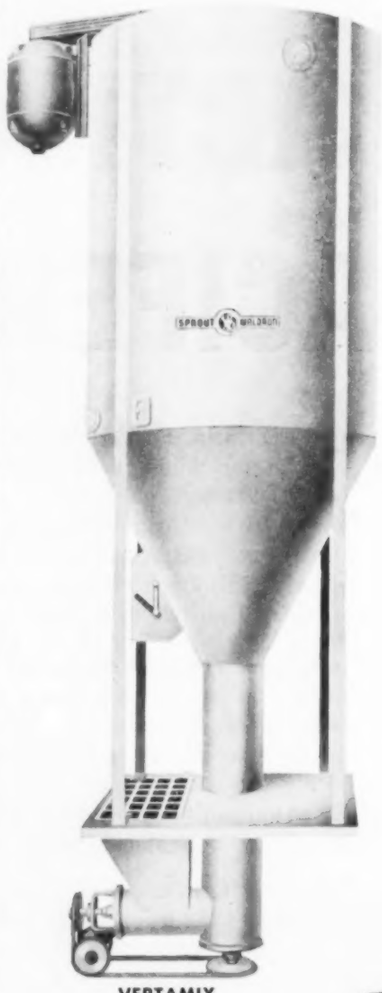
The responsibilities will be a part of his job as director of the newly-formed division to handle projects and services concerned with the integration of farm production and marketing. (Feedstuffs, Feb. 21.)

Feeder Pig Study Made in Minnesota

ST. PAUL — The importance of trade in feeder pigs to Minnesota's hog industry is borne out in a recent report of the State-Federal Crop & Livestock Reporting Service, St. Paul.

A survey of Minnesota farmers buying feeder pigs in the nine-month period of Jan. 1 through September, 1958, showed that many of the state's farmers specialize in the raising of pigs for sale at light weights when 5-10 weeks old. Other farmers are buyers of pigs for feeding to slaughter weight, mostly 200-220 lb. Large numbers of feeder pigs are produced for sale in Minnesota, but many are shipped in from nearby states, such as Wisconsin and South Dakota, and even from more distant areas in Missouri and Nebraska.

Survey results showed that about two fifths of the Minnesota farmers purchasing feeder pigs bought more than one lot during the nine-month period. Death losses for pigs bought



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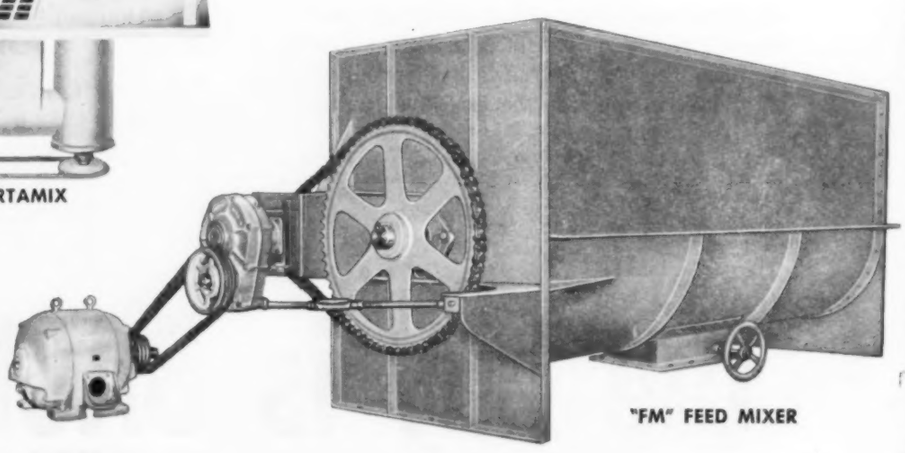
Whether your mixing problems involve quantities from 1-200 cubic feet, the simple inter-mingling of two or more dry ingredients, the intimate blending of small quantities of critical ingredients, the high speed addition of molasses and other liquids or any one of a hundred related operations, a Sprout-Waldron unit machine or system will do the job faster, more reliably and more economically.

At left is shown the Sprout-Waldron Vertamix, featuring the patented Thoro-Flo baffle which makes possible the rapid mixing of feed with unparalleled efficiency. The vertical mixer design minimizes floor space requirements and offers a quiet running, compact, self-cleaning unit with outstanding versatility. Ask for Bulletin 97.

Illustrated below is the Sprout-Waldron "FM" horizontal feed mixer which is fast becoming the industry's standard for the mixing of dry feeds. Economical to operate and built for trouble-free performance, the "FM" mixer is designed for rapid, yet thorough mixing in medium and low capacity feed mills, as well as in high production mills where efficient mixing at highest rate and lowest cost is paramount. The modern approach to rapid automatic batching utilizes the "FM" mixer plus a surge bin which actually serves as a second mixer.

With a scale and hopper above the mixer and a surge bin underneath, three batches can be in process at all times. Ask for Bulletin 112-A.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between Jan. 1 and Oct. 1 averaged 3-4%.

Detailed data reported for the last lot purchased indicated that most purchases were on a per head basis. When hogs were bought on a per hundredweight basis they tended to be heavier and brought a lower price per pound. The average weight of feeder pigs purchased was greatest in January—about 80 lb. Then it declined, reaching a low of 35 lb. in April, a period when the supply of young pigs is usually large.

The average price per head was highest—$20—in January when the average weight was the greatest, and was lowest in May at $14.60.

Weight of all pigs reported purchased during the nine months averaged 42 lb. For hogs bought by the pound the per head cost was $25.50 based on the average price per hundredweight of $20.30 and an average weight of 125 lb. Feeder pigs purchased on a per head basis averaged 39 lb. and cost the farmer about $15.60 each. The converted cost of pigs bought on a per head basis was about $40 cwt. Hence, lightweight feeder pigs—those averaging 39 lb.—purchased on a per head basis cost twice as much per pound as the heavier feeder pigs of about 125 lb. bought on a weight basis.

According to the Minnesota feeder pig report, more than half of the feeder pigs were bought through dealers. The next most important source, which accounted for about one third of the total, was direct purchases from farmers who generally lived in the same or a nearby county.

BUILDS FEED MILL

TIPTON, IOWA — Construction of a new business enterprise here, Cedar County Feed & Grain, is now under way. The new feed mill and grain storage facilities are being constructed by Morris Christy, former vocational agriculture instructor here. Plans call for a feed mill with complete grinding and mixing facilities. The mill will have a capacity of 75 tons a day.

29-Year-Old Baled Hay Still Good For Feed

FORT DAVIS, TEXAS—Evidence that hay can be stored for a long time is an experience of Espy Miller, who has been feeding 29-year-old baled hay, supplemented with cottonseed meal and hulls, to more than 50 newly-weaned calves.

In the autumn of 1929 Mr. Miller cut 1,500 tons of native hay composed of tobosa and blue grama and stored the hay in a barn.

Ad Series on Radio

WALTHAM, MASS. — Wirthmore Feeds, Inc., has announced the start of a nine-week series of radio spot announcements over station WGY, Schenectady, N.Y., to promote the sale of its poultry and dairy feeds. The agency is Simonds, Payson Co., Inc., Portland, Me. The special area promotion is part of a program designed to test the effectiveness of radio farm news listenership on sales.

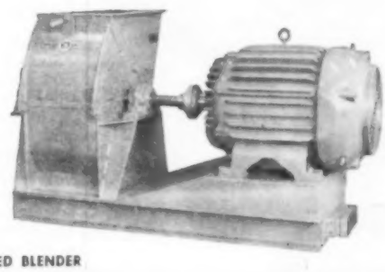
NEW PRESIDENT—The new president of the Colorado Grain, Milling & Feed Dealers Assn. is J. S. Parker (left), manager of the Farmers Union Cooperative, Wray, Colo. At right is the retiring president, Del Ellis, manager of the grain department for the Colorado Milling & Elevator Co., who was also appointed chairman of the executive committee for the coming year. A. J. Schloo, Farmers Union Marketing Assn., Denver; Kenneth W. Lloyd, Walston & Co., Denver, and J. K. Malo, Intermountain Elevators, Denver, were also named to the executive committee.

MIXERS AND BLENDERS

DOUBLE AGITATOR MIXER

These versatile mixers are ideal for adding liquids to dry materials, blending two or more materials, mixing of slurries, as well as for many other applications requiring continuous mixing. Where maximum travel of material is desired, with minimum floor space requirements, two or more machines can be mounted one above the other with the material traveling in opposite directions in each unit.

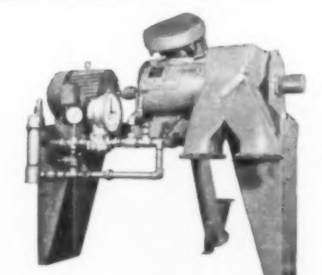
Bulletin 131-A



FEED BLENDER

The high percentage of fats and oils currently being added to feed often makes it necessary to use special blenders in order to break up agglomerations or globules. This is ideally accomplished in the Sprout-Waldron hammer mill or single runner disc type feed blender, which do the job thoroughly and rapidly with a minimum of maintenance and power costs.

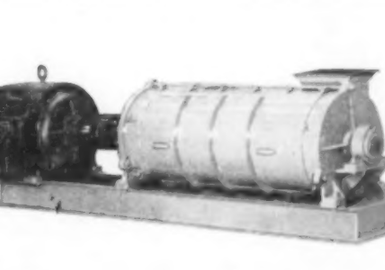
Bulletins 66-B and 122



CUSTOMIX

For the efficient high speed mixing of cold molasses to pre-mixed feeds, nothing quite matches the modern, streamlined Sprout-Waldron Customix, designed especially for the progressive custom mill requiring three to six tons per hour of lump-free quality feed.

Bulletin 98-A



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For the larger production rates, ranging from 7 to 20 tons per hour, the Sprout-Waldron deluxe Coldmix is recommended. S-W feed mixers are available as complete units with molasses pump and strainer and all needed accessories. A compact molasses heater is also available.

Bulletin 121

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Texas Cage Clinic For Poultrymen Set for March 25

COLLEGE STATION, TEXAS — The annual Cage Clinic sponsored by the poultry science department, Texas A&M College, will be held March 25. Ben Wormeli, extension poultry husbandman, said attendance at previous clinics has averaged over 500 and indications point to another good turnout for the 1959 clinic.

Mr. Wormeli pointed out that in 1953 an estimated 272,000 cages were in use while more than 3,500,000 were in use last year. He said much of the recent increase has been in colony cages and this subject will be discussed during the clinic. Dr. John Quisenberry, head, poultry science department, will give the results of research done at the college on the performance of hens in colony cages.

Dr. Clyde Driggers, head, poultry division, University of Georgia, will speak on contract egg production and the changing nutritional needs of laying hens as it relates to age and season of the year.

Dr. A. W. Brant, Agricultural Research Service, U.S. Department of Agriculture, will present the potential opportunities afforded by the proposed federal-state egg quality program. Other speakers from the Texas poultry industry and Texas A&M will handle subjects of prime importance to egg producers.

The event is to start at 8:50 a.m. in the Memorial Student Center. The last program feature is set for 4:15 p.m.

New Alfalfa Variety Described in Bulletin

STATE COLLEGE, N. M.—A bulletin on Zia alfalfa, new variety resistant to the spotted alfalfa aphid, is available from the information department of New Mexico State University here.

The variety was developed in tests at State College and the Southeastern Station at Artesia, N.M. Between 10,000 and 15,000 lb. of foundation seed were planted this year, and some seed for commercial plantings will be available in the fall of 1959. Researchers said that while the variety's outstanding characteristic is its resistance to the spotted alfalfa aphid, it also possesses good resistance to bacterial and fusarium wilt.

Copies may be obtained by writing to the information department, Box 757, New Mexico State University, State College, and asking for Bulletin 435, "Zia Alfalfa."

Robert P. Stewart Karl L. Winter

Two Join Borden Feed Department

NEW YORK—The appointment of Karl L. Winter and Robert P. Stewart as sales representatives for the feed supplements department of the Borden Co.'s special products division has been announced by Richard G. Sanders, director of sales and marketing for the department.

Mr. Winter has been assigned to Alabama, Mississippi and Florida, and sections of Louisiana, Arkansas, Tennessee and Georgia. Prior to joining the Borden Co. Mr. Winter had been employed in feed sales with The Quaker Oats Co., Chicago, and with Cosby-Hodges Milling Co., Birmingham, Ala. He had earlier owned and operated his own feed mill.

Mr. Stewart has been assigned to Indiana, Ohio, Michigan and Kentucky. Before joining Borden's, Mr. Stewart had been employed with McMillen Feed Mills, Ft. Wayne, Ind., as territory manager, and more recently with the Ohio Department of Agriculture. Mr. Stewart has attended Ohio State University and Ohio University.

FEED FIRM OPENS

SAINTE GENEVIEVE, MO.—Ste. Genevieve Feed & Produce, Inc., opened for business recently here. The firm will handle a line of feeds and will have a mobile mill service.

NEPPCO Turkey Men Select Officers, Map Plans for Exposition

TRENTON, N.J.—A. G. Palmateer, veteran turkeyman of Elverson, Pa., was named chairman of the turkey division of the Northeastern Poultry Producers Council as the group held its annual meeting recently. He replaces Morris Smith, Ellicott City, Md.

Serving as vice chairman of the group will be William Gozzi, Guilford, Conn., with J. C. Lambert, Jr., Trenton, recording secretary.

The council also mapped plans for the turkey program at the NEPPCO Exposition Oct. 6-8 in Harrisburg, Pa.

Marketing Act

The National Turkey Marketing Act was the chief item of discussion, with M. C. Small, executive secretary of the National Turkey Federation, on hand to describe the salient points of the measure. He pointed out that none of the three bills now being considered by Congress (HR 1344, HR 3069 and S 430) is approved by the federation. All are identical and embody production controls to which NTF is opposed, he said. The federation's bill will be introduced shortly, he reported.

State associations making up the NEPPCO turkey division will be polled in the near future to ascertain the division's stand on the "enabling act" which provides funds for such things as promotion, research and market stabilization.

Iowa Feed Mill Opens

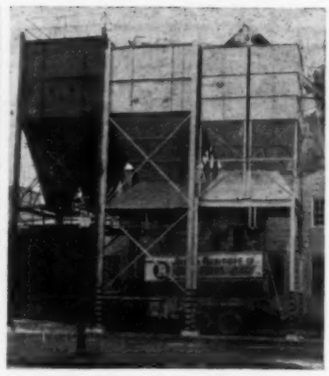
PALMER, IOWA—The new $100,000 feed mill installed by Farmers Cooperative Co. here was the attraction at an open house recently.

The new building is located adjacent to the company's three elevators, two warehouses and office building. It measures 24 by 36 ft., attached to a warehouse 26 by 40 ft. New installations include a hammer mill, a 5-ton mixer, an oat huller, a roller and a crimper and equipment for molasses blending.

Don Reiter is manager and Charles A. Olson is chairman of the board.

MILLING FIRM SOLD

ELDORA, IOWA — The Pierson Milling Co., Eldora, has been sold to the Farm Bureau Service Co. by John Pierson, owner for the past 10 years.



EXPANSION—A $100,000 expansion program in facilities and services has been announced by the Jacob Rubinoff Co., Vineland, N.J. Several new installations have already been completed, including the loading bin shown above (left), for bulk feed deliveries. According to Edward G. Rubinoff, general manager of the poultry feed company, other improvements will include additions to the firm's fleet of trucks, other bulk loading facilities, and further improvements in the plant's electronic control devices. There will also be new equipment for handling incoming bulk ingredients in the plant's storage facilities.

Langston Bag Forms Subsidiary Company

MEMPHIS, TENN. — Officials of the Langston Bag Co., Inc., Memphis, have announced the formation of a new textile bag manufacturing firm in Puerto Rico as a wholly-owned subsidiary of the Memphis firm. It will be known as Langston Bag Co., Inc., of Puerto Rico.

The new firm will manufacture burlap and cotton bags in facilities being installed at Fajardo, Puerto Rico, about 35 miles from San Juan.

F. B. Langston, president of the Memphis firm, will also head the Puerto Rico company.

The plant will serve Puerto Rico primarily, with bags also distributed to Cuba, the Dominican Republic, Haiti and Caribbean Islands. The plant is expected to be in operation soon. Production is expected to be about 35,000 new textile bags a day; some 25 people will be employed.

NATIONAL* Western Bentonite

...as the bonding agent...

makes Pellets more Profitable

Feed manufacturers who use NATIONAL Western Bentonite as their bonding agent realize greater profits from their pelleted feeds.

These greater profits come from the superior bonding qualities imparted by NATIONAL Western Bentonite.

NATIONAL Western Bentonite lubricates the feeds . . . reduces friction and prolongs life of the die.

Result . . . more pellets per hour in all shapes and sizes.

For detailed information on how NATIONAL Western Bentonite can better serve you . . . just fill in the coupon today for your copy of descriptive booklet.

BAROID CHEMICALS, INC.

A SUBSIDIARY OF NATIONAL LEAD COMPANY

1809 SOUTH COAST LIFE BLDG. HOUSTON 2, TEXAS

*Registered Trademark of National Lead Company.

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A SUBSIDIARY OF NATIONAL LEAD COMPANY
1809 SOUTH COAST LIFE BLDG. HOUSTON 2, TEXAS

Please send me your latest literature.

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Advertisement

"Yes, we do think a lot of our genuine CPM factory-made parts. Why do you ask?"

© 1959 CALIFORNIA PELLET MILL CO.

Honeggers' proudly announce...

WE DOUBLED OUR BUSINESS LAST MONTH

February sales up

133%

over February, 1958

DOUBLE YOUR TRIPLE

WATCH FOR a NEW series of ads featuring good business men who have Doubled their Tonnage and Tripled their Profits.

Exclusive Franchises are still available in some areas. Some aggressive dealer will Double his Tonnage in your area with Honeggers' Complete Program. It might as well be you!

HONEGGERS' & CO., INC.
FAIRBURY, ILLINOIS

February 12, 1959

E. F. DICKEY
PRESIDENT

To PROGRESSIVE FEED DEALERS

TALK IS CHEAP; it's results that count. Many feed dealers across the land have DOUBLED THEIR TONNAGE and TRIPLED THEIR PROFITS on the HONEGGER program. Of course, there is a reason, -- but we know the reason and what others have done, YOU can also do. We promise you this.

Are you being crowded by piddling crossroad dealers? Are you being by-passed on larger feeders? Do you need more territory protection and a more complete line of products that you can merchandise on an exclusive basis? Do you need a more aggressive advertising and merchandising program?

Then why don't you do as hundreds of other good dealers have done and line up today with the most progressive feed company in America.

We're BIG enough to do anything that we need to do, yet SMALL enough to give you and your problems individual and PERSONAL attention.

Write or call us today. Get the facts. We'll show you how to make more money on a PROTECTED and EXCLUSIVE franchise basis.

Ed Dickey
President

EFD:JH

Write, phone or wire collect for complete details...*DAY or NIGHT!*

HONEGGER Layers

HONEGGERS'

BIG H FEEDS

FEED & FARM BUILDINGS DIV., FAIRBURY, ILLINOIS · BREEDER HATCHERY DIV., FORREST, ILLINOIS

TONNAGE
YOUR PROFITS

What others have done....you can do also
WITH HONEGGERS' COMPLETE PROGRAM

HONEGGER BIG "H" FEEDS

Honeggers' offer a complete line of feeds and feeding programs backed by practical farm research. The rapidly increasing number of enthusiastic users is testified to by the volume of Honeggers' sales.

HONEGGER LAYERS

Honegger Layers are one of the nation's outstanding egg laying strains. They are sold by Honegger Dealers and Associate Hatcherymen. And remember, only 600 chicks will eat a carload of feed.

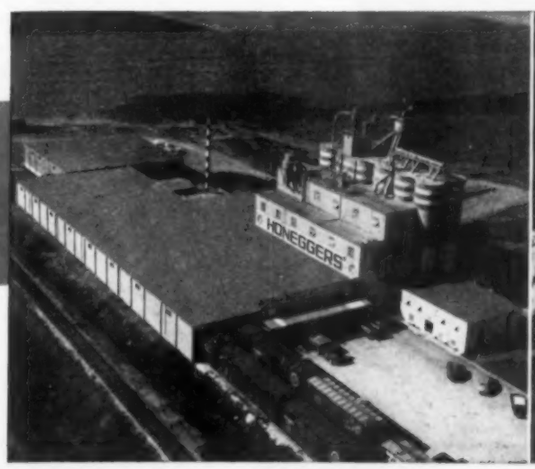
BIG "H" LIVESTOCK AND POULTRY EQUIPMENT

Every item of livestock and poultry equipment manufactured in Honeggers' own equipment plant at Taylorville, Illinois, is guaranteed by Honeggers. The practical design and rugged construction of Big "H" Equipment is a plus factor.

HONEGGER FARM BUILDINGS

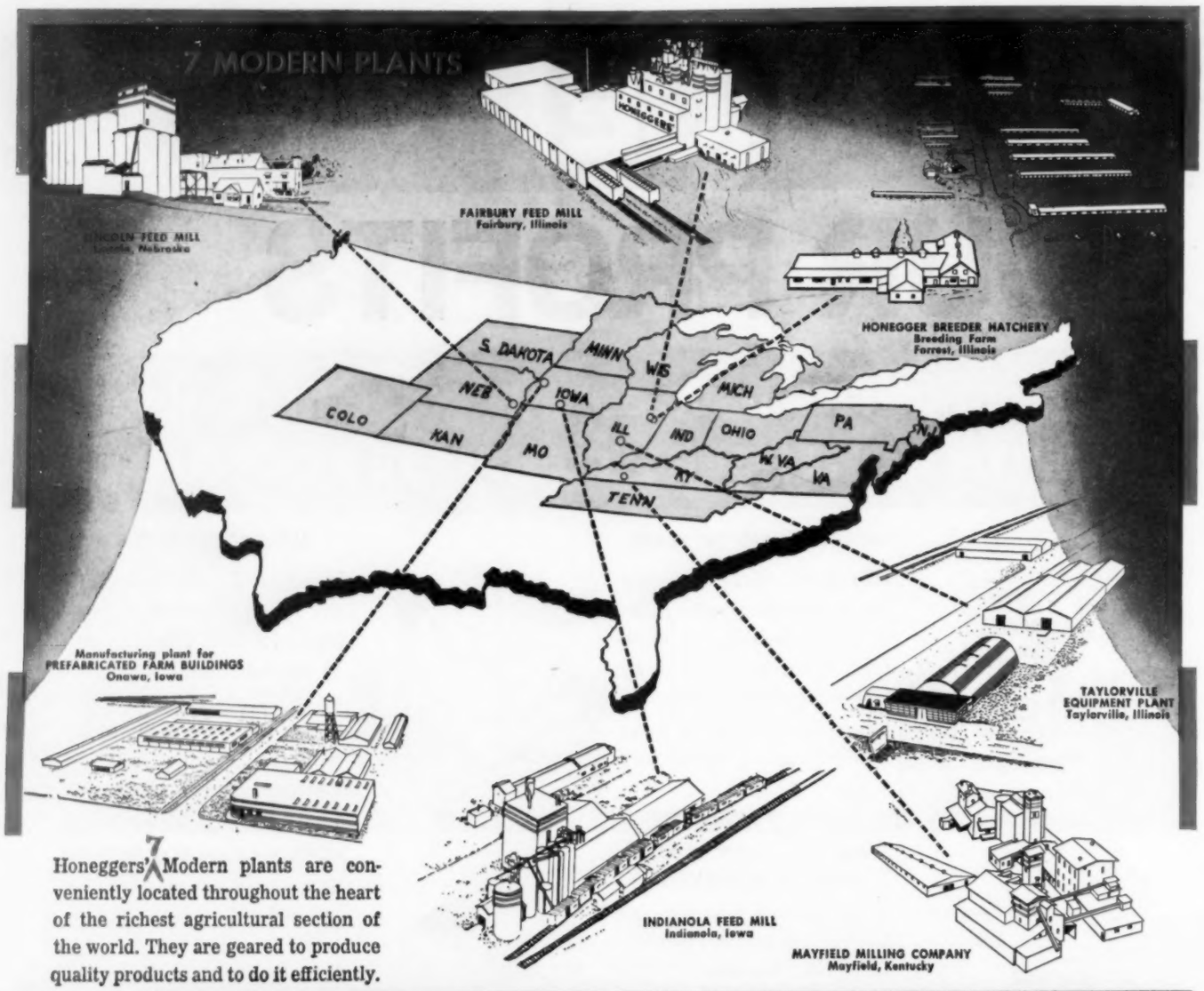
Honeggers' complete line of pre-built Farm Buildings mean extra profits for Honegger Dealers. There's no additional investment on your part . . . Here's the perfect tie-in for your livestock and poultry feed business.

All Honegger Products are sold exclusively by Honegger Dealers ONLY!



Honeggers' modern plants, like this mill at Fairbury, Illinois, are geared to produce the best possible products at the lowest possible cost. The Fairbury mill for example features electronic controls, "push-button" ingredient selection and all bulk handling.

The 600 acre Honegger Research Farm, where practical feeding, management and disease control practices are developed and demonstrated. Dealers find that a tour of Honeggers' by customer prospects really helps them sell.



Honeggers' 7 Modern plants are conveniently located throughout the heart of the richest agricultural section of the world. They are geared to produce quality products and to do it efficiently.

CONSISTENT, HEAVY IMPACT advertising sells for you in your customer's farm press.

Here is another plus factor for Honegger Dealers. Full page and double page ads run in color in leading farm publications. These ads keep customers constantly aware of the ever increasing services and products available at their nearby Honegger Dealers.

What Honeggers' Complete Program can do for your customers it can also do for you. When you add up all the plus factors of the Honegger Complete Program, the road leads to greater sales and greater profits for farmers and for dealers.

No other company in America has so much to offer!

Retirement and Promotion Told By Quaker Oats

CHICAGO—Retirement of Myron J. Aubineau, vice president in charge of purchasing, and promotion of Henry T. Chandler to Chattanooga, Tenn., plant manager, have been announced by the Quaker Oats Co., Chicago.

A native of Arizona, Mr. Aubineau joined Quaker Oats in 1919 after service as a pilot in World War I. From his first position as a retail salesman, he rose through a succession of sales posts to become manager of the Cedar Rapids sales office in 1932. In 1945 he organized the company's western division and from his headquarters at San Francisco supervised all sales and production in the intermountain and Pacific coast states.

Myron J. Aubineau

After seven years as western division manager, Mr. Aubineau came to company headquarters in Chicago as director of purchases. He was appointed vice president in charge of purchasing in 1953.

Angus Macdonald, as director of purchases, has now assumed full responsibility for all company purchases with the exception of grain and ingredients, which will continue to be administered by the grain department. Mr. Macdonald, former manager of the company's Akron plant, was appointed to his present position two months ago. L. E. Thorp continues as manager of the purchasing department.

Mr. Chandler succeeds Hamilton Browne, who has been named manager of the company's eastern sales region at Elizabeth, N.J.

Mr. Chandler will be in full charge of all production operations. In a new alignment of responsibilities, sales management and production management functions have been separated. W. P. Brown, formerly manager of the Sherman, Texas, cereal sales office, has been named manager of the southern sales region in Chattanooga. Hamilton Browne formerly held dual sales and production responsibility.

Mr. Chandler joined Quaker Oats in 1947. Prior to his recent promotion, he had been superintendent at Chattanooga since 1957.

Commercial Solvents Reports Earnings

NEW YORK—Commercial Solvents Corp., New York, has reported consolidated net earnings of $1,418,462, equal to 52¢ share on 2,741,422 shares of common stock, after deducting $682,216, or 25¢ share, to adjust the carrying value of the company's investment in its Canadian affiliate, Northwest Nitro-Chemicals Ltd., for the year ended Dec. 31, 1958.

This compares with $1,449,638 or 53¢ share in 1957, the report said.

Sales for the year totaled $64,727,548, compared with $65,931,804 for the previous year.

At the same time, the firm announced a dividend of 5¢ share on the outstanding common stock, payable March 31, 1959, to stockholders at the close of business on March 6, 1959. The previous payment was 5¢ share on Dec. 29, 1958.

In antibiotics for the feed manufacturing industry, 1958 sales of the stable zinc form of bacitracin, developed by Commercial Solvents, were twice those of the preceding year. "There has been a greatly increased acceptance of zinc bacitracin by swine and poultry growers and by feed manufacturers," said the corporation's annual report.

In the vitamins group in animal nutrition, choline chloride sales were well ahead of the previous year. Market prices followed a downward trend.

FEED STORE SOLD

ELKO, NEV.—Sale of Howard's Feed & Seed Co. to the Elko County Farm Supply Co. has been announced jointly by Erle Howard and John McAllister. Mr. Howard will be associated with the new company as an employee.

BUSINESS MANAGEMENT CONSULTANTS

Progressive companies, large and small, are finding it highly profitable for them to have studies and analysis made regularly by experienced consultants.

Our staff with years of experience can assist you with—
Financial Studies — Plans — Schedules — Budgets — Credit and Working Capital Controls
Costs — Margins — Profits
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JAMES H. BURRELL & COMPANY, INC.
3615 Olive Street Phone—JEfferson 5-0715 St. Louis 8, Mo.

DESIGNED AND BUILT SPECIALLY FOR GRAIN ELEVATORS

TRIUMPH CORN SHELLERS

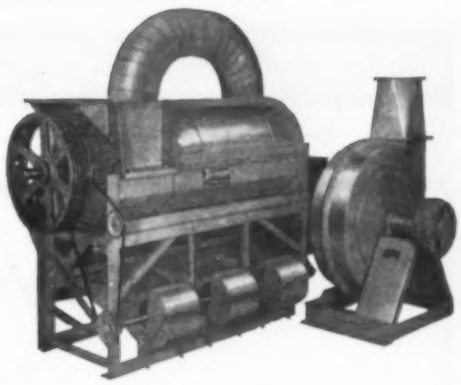
shell, separate and clean the corn; remove cobs, husks and dirt

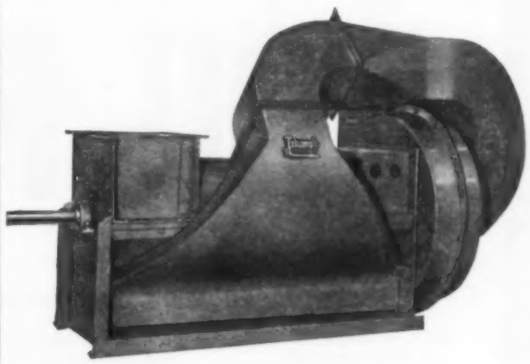
assure fast, efficient, dependable, low cost operation

Improved **TRIUMPH No. 1200* Corn Sheller**

Complete system including sheller, cleaner and blower. The original and undisputed best. New, improved model assures even less costly operation; better cleaning; easier access to all parts; and more automatic operation. Highly efficient even on high moisture corn, or corn full of husks. Exceedingly compact. Requires little space. Easily adapted to any plant arrangement. Few moving parts. Fully patented. Capacity 40 to 50 tons of machine picked ear corn per hour. Send the coupon today for complete description and specifications!

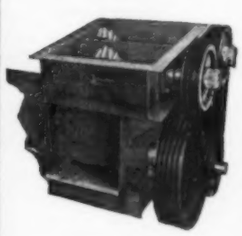
*U. S. Patent No. 2,754,827.





New **TRIUMPH No. 900* Corn Sheller**

All the patented, proven features of the larger No. 1200 system, but somewhat smaller. Rugged, sturdily built. Fully meets all requirements of grain elevator service. Highly efficient on high moisture corn or corn full of husks. Low intake height. Sheller, cleaner and blower driven with a single motor simplifying installation and operation. Screen, shelling plates and all other internal parts readily accessible. Capacity 30 to 40 tons of machine picked ear corn per hour. Send the coupon today! Get full details and dimensions.



TRIUMPH Double Roll Ear Corn Crushers

Only 10" high. Mounts easily on feed hopper of either a No. 1200 or No. 900 Sheller. Prevents entrance of rocks, tramp iron or other foreign materials. Large capacity. Highly efficient. Double shaft design permits one shaft to operate even though pins in other sheave are sheared. Easily installed. Driven from the sheller. Requires no additional motor. It'll save you time and money! Get full details. Send the coupon today.

THE C. O. BARTLETT & SNOW CO.
6249 Harvard Avenue
Cleveland 5, Ohio

Send full details about:—

☐ No. 1200 Sheller ☐ No. 900 Sheller ☐ Ear Corn Crushers

☐ Have an engineer survey my plant. (No cost or obligation to me)

Name_____ Title_____

Company_____

Address_____ State_____

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GRAN-I-GRIT

Has Eye Appeal for Poultry of All Ages

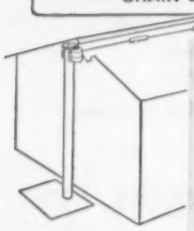
NORTH CAROLINA GRANITE CORP.
MOUNT AIRY NORTH CAROLINA

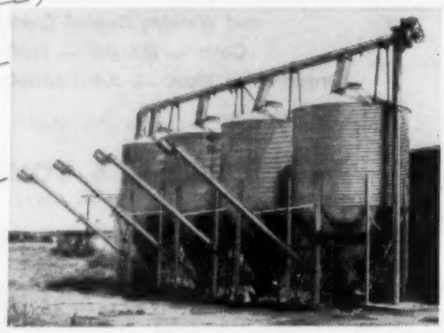
Save Time... Space... Money

With Standard **BAZOOKA** GRAIN AUGER

ELEVATOR and CONVEYOR SYSTEMS

FOR FLAT STORAGE...FEED MILLS...LINE ELEVATORS
GRAIN DRYERS...SIMILAR OPERATIONS





Designed With Standard 4, 6, 8 and 10 inch Bazooka Augers

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Used Vertically... Horizontally or at Any Angle to Elevate, Convey and Distribute Grain, Feed, Other Non-Bridging Materials... Indoors or Out.

•

Minimum Space Requirements... Low Upkeep... Highly Efficient... Self Cleaning.

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Far Less Costly Than Custom Built Auger Installations.

•

Wyatt Engineering Service Available for Plant Layout and Design. Write for Details.

THE WYATT MANUFACTURING CO., INC.
Salina, Phone TAylor 5-5441 Kansas

Convention Calendar

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear ahead of the ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

• • •

April 24—Washington Beef Cattle Day; Washington State College, Pullman, Wash.

Oct. 30—Illinois Sheep Producers Day; University of Illinois, Urbana; chm., Dr. U. S. Garrigus, Department of Animal Science.

• • •

March 25—Distillers Feed Conference; Sheraton Gibson Hotel, Cincinnati; sponsored by Distillers Feed Research Council; exec. director, Dr. Lawrence E. Carpenter, 1232 Enquirer Bldg., Cincinnati 2, Ohio.

March 25—Texas Cage Clinic; Texas A&M College, College Station; chm., Ben Wormeli, Poultry Husbandry Department.

March 26—South Dakota Sheep Field Day; South Dakota State College, College Station, S.D.

April 2-4—Pacific Dairy & Poultry Assn.; Coronado, Cal.; sec., Carl E. Nail, 1304 E. 7th St., Los Angeles.

April 8—Purdue Egg Day; Purdue University, Lafayette, Ind.; sec., David D. Jackson, extension poultryman, Purdue University.

April 12-14—Animal Health Institute, Inc.; Shoreham Hotel, Washington, D.C.; sec., D. L. Bruner, 512 Shops Bldg., Des Moines, Iowa.

April 12-15—National Fisheries Institute; Hotel Commodore, New York City; asst. gen. mgr., Mal Xavier, 1614 20th St. N.W., Washington 9, D.C.

April 12-17—Grain Elevator & Processing Superintendents; Multnomah Hotel, Portland, Ore.; sec., Dean M. Clark, 1120 Board of Trade Bldg., Chicago 4, Ill.

April 13-14 — Nebraska Grain & Feed Dealers Assn.; Paxton Hotel, Omaha; sec., Howard W. Elm, Trust Building, Lincoln, Neb.

April 14-15—Poultry and Egg National Board meeting; Edgewater Beach Hotel, Chicago; gen. mgr., Lloyd H. Geil, 8 S. Michigan Ave., Chicago 3, Ill.

April 17—Nebraska Feeders Day, University of Nebraska, Lincoln, Neb.

April 23-25—California Hay, Grain & Feed Dealers Assn.; Fairmont Hotel, San Francisco; sec., John F. Gil-

Improve feed digestion with —contact your

DU PONT

Backed by 20 years' experience in ruminant feedstuffs

Agricultural Services, Inc.
402 Flour Exchange Bldg.
Minneapolis, Minn.

Arch Sales Co.
P.O. Box 9001
Stockyards Station
Denver 16, Colo.

Bartels and Shores Chemical Co.
1400 St. Louis Avenue
Kansas City 7, Mo.
700 East 17th St.
Wichita, Kansas

Carroll Swanson Sales Co.
2215 Forest Ave.
Des Moines 11, Iowa

Davis Enterprises, Inc.
919 S. Perry St.,
Dayton 1, Ohio

R. D. Erwin Co.
738 Third National Bank Bldg.
Nashville 3, Tenn.

Good-Life Chemical, Inc.
301 South First St.
Effingham, Ill.

Grandone, Inc.
Needham 92, Mass.

Harris-Crane, Inc.
221 S. Church St.
Charlotte, N.C.

La Budde Feed & Grain Co.
741 N. Milwaukee St.
Milwaukee 2, Wisc.

P. R. Markley of New Jersey, Inc.
7300 Crescent Blvd.,
Pennsauken, N. J.

CALENDAR FOR 1959-60

MARCH

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more, Blue Anchor Bldg., Sacramento, Cal.

April 24-25—Joint Convention, Texas dealer and manufacturer groups; Hotel Texas, Ft. Worth—Texas Grain & Feed Dealers Assn.; sec., Ben M. Ferguson, 614 Meacham Bldg., Ft. Worth; Texas Feed Manufacturers Assn., sec., Ben. E. Schmitt, 3421 Park Ridge Blvd., Ft. Worth.

April 24—Indiana Cattle Feeders Day; Purdue University, Lafayette, Ind.; chm., Dr. W. M. Beeson, Department of Animal Science, Purdue University.

April 27-29—American Association of Feed Microscopists; Hotel Lincoln Douglas, Quincy, Ill.; sec., G. M. Barnhart, Missouri Dept. of Agriculture, Jefferson City, Mo.

April 30-May 2—Kansas Grain & Feed Dealers Assn.; Broadview Hotel, Wichita, Kansas; sec., O. E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

May 8-10—Grain Processing Machinery Manufacturers Assn.; Chicago; sec., Raymond J. Walter, 511 Fifth Ave., New York 17, N.Y.

May 10-12 — National Cottonseed Products Assn.; Mark Hopkins and Fairmont Hotels, San Francisco; sec., John F. Moloney, 43 N. Cleveland St., Memphis, Tenn.

May 11-13—American Feed Manufacturers Assn. Convention and National Feed Industry Show; Conrad Hilton Hotel, Chicago; sec., W. T. Diamond, 53 W. Jackson Blvd., Chicago 4, Ill.

May 15-16—Missouri Grain, Feed & Seed Assn.; Hotel Governor, Jefferson City, Mo.; sec., D. A. Meinershagen, Higginsville, Mo.

June 1-2—Central Retail Feed Assn.; Hotel Schroeder, Milwaukee; sec., Eldon H. Roesler, 1712 W. St. Paul Ave., Milwaukee, Wis.

June 7-9—Indiana Grain & Feed Dealers Association; Sheraton Hotel, French Lick, Ind.; sec., Fred Sale, 600 Board of Trade Bldg., Indianapolis, Ind.

June 7-9 — Eastern Federation of Feed Merchants, Pocano Manor Inn, Pocano Manor, Pa.; sec., Austin W. Carpenter, Sherburne, N.Y.

June 8-10—Alabama Poultry Industry Assn.; Municipal Auditorium, Birmingham; exec. sec., W. L. Walsh, P.O. Box 567, Montgomery, Ala.

June 9—Northeastern Poultry Producers Council Egg Quality and

ALWAYS SELL OAKES Sanitized POULTRY EQUIPMENT

Set the table RIGHT for GREATER POULTRY PROFITS

No. 1684 "COMFORT SPOT" GAS BROODER
The "Comfort Spot" Gas Brooder takes care of 500 to 750 chicks, eliminates "hot spot" areas with the right temperature everywhere.

No. 678-B—New, Improved ALL-PURPOSE AUTOMATIC WATERER
Sturdy angle bar under trough anchors 2 end stands together (see below). Permits easy moving. 8 feet long. 18" adjustable height. Serves 400 broilers.

Available with blue porcelainized trough —No. 1678

No. 860-T— FLOCK FEEDER
Ideal feeder for hens, chicks or turkeys 8 weeks and older. Adjustable channel steel legs, capacity—4½ pecks.

(Cap. 40#) (Cap. 35#)

HI-LO HANGING FEEDERS— the most wanted hanging feeder. R-35 one-piece hopper has tapered sides to prevent feed bridging.

SEND FOR FREE 1959 CATALOG
Just off the press! Full of new, improved money saving Poultry and Hog Equipment.

New "POULTRY CHIEF" Mechanical Feeder
The most flexible feeder on the market. 2 hopper sizes. Write for special catalog folders.

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AN OPERATION OF FOOD MACHINERY AND CHEMICAL CORPORATION
BOX 902, TIPTON, INDIANA
R-3658R

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Russell-Miller Milling Co.
P.O. Box 157, Buffalo, N. Y., Phone MAdison 6007, Teletype BU 550
SHIPPERS CARLOAD LOTS—CHOICE WHEAT, CORN, OATS, BARLEY
TERMINAL ELEVATORS AT
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top-quality urea protein dependable agent for

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FEED COMPOUND

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BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

Grading School; University of Massachusetts, Amherst; mgr., Dr. Alfred Van Wagenen, 10 Rutgers Place, Trenton 8, N.J.

June 9-10—Association of Southern Feed and Fertilizer Control Officials; Velda Rose Motel, Hot Springs, Ark.; sec., Maurice B. Rowe, Virginia Dept. of Agriculture, 1123 State Office Bldg., Richmond, Va.

June 25-27—Delmarva Chicken Festival, Dover, Del.; Dave Green, 1102 S. State St., Dover, Del.

June 25-27—Canadian Feed Manufacturers Assn.; Bigwin Inn, Lake of Bays, Ontario; N. D. Hogg, Box 66, Station Q, Toronto, Ont.

June 25-27 — Delmarva Chicken Festival; Dover, Delaware; sec., J. Frank Gordy, Delmarva Poultry Industry, Inc., R.F.D. No. 2, Box 47, Georgetown, Del.

July 10-14—Georgia Feed Assn.; General Oglethorpe Hotel, Savannah, Ga.; sec., Will L. Kinard, 3240 Peachtree Rd. Bldg., Atlanta 5, Ga.

July 21-23—American Poultry Congress and Exposition; Kiel Auditorium, St. Louis, Mo.; exec. sec., Don M. Turnbull, American Poultry and Hatchery Federation, 521 E. 63rd St., Kansas City 10, Mo.

Aug. 3-8—Feed Microscopy Short Course; Texas Agricultural Experiment Station, College Station; chm., E. E. Brown, Asst. State Chemist.

Aug. 4-7 — Poultry Science Assn. (meeting for members and executive committee invited guests only), Iowa State College, Ames; chm., Dr. Robert E. Phillips, poultry department, Iowa State College.

August 7-8—North Carolina Feed Manufacturers Assn.; Ocean Forest Hotel, Myrtle Beach, S.C.; sec.-treas., A. M. Upshaw, Jr., North Carolina Feed Manufacturers Assn., Box 44, Mocksville, N.C.

Sept. 13-14—Grain and Feed Dealers National Assn. (work meeting for directors, committees and members), Minneapolis; exec. vice pres., Alvin E. Oliver, 400 Folger Bldg., Washington 5, D.C.

Sept. 16-18—National Feed Ingredients Assn.; Pick-Congress Hotel, Chicago, Ill.; sec., Peter W. Janss, 212 Equitable Bldg., Des Moines, Iowa.

Sept. 17-18 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville; chm., Dr. E. L. Stephenson, Department of Animal Industry.

Sept. 18—College-Feed Industry Conference; Iowa State College, Ames; chm., Prof. Emmit Haynes, Animal Husbandry Dept.

Sept. 23-25 — Feed Production School; Continental Hotel, Kansas City; Lloyd Larson, 20 W. 9th St. Bldg., Kansas City, Mo.

Oct. 6-8 — Northeastern Poultry Producers Exposition; Farm Show Building, Harrisburg, Pa.; sec., Dr. Alfred Van Wagenen, 10 Rutgers Place, Trenton 8, N.J.

Oct. 7-9—Texas Nutrition Conference; Texas A&M College, College Station; chm., Dr. J. R. Couch, Department of Poultry Science.

Oct. 14 — Animal Nutrition Research Council; Shoreham Hotel, Washington, D.C.; sec., Irwin Olcott, Dawe's Laboratories, Inc., 4800 S. Richmond St., Chicago 32, Ill.

Oct. 14-15—Association of American Feed Control Officials; Shoreham Hotel, Washington, D.C.; sec., Bruce Poundstone, Agricultural Experiment Station Bldg., University of Kentucky, Lexington, Ky.

Oct. 20-21—Virginia State Poultry Federation; Hotel John Marshall, Richmond, Va.; sec., J. Paul Williams, 615 E. Franklin St., Richmond 19, Va.

Oct. 22-23 — Annual Stockholders Meeting, Cooperative G.L.F. Exchange, Inc., Onondago County War Memorial Building, Syracuse, N.Y.

Nov. 4-7 — National Renderers Assn., Hollywood Beach Hotel, Hollywood Beach, Fla.; sec., Miss Jamie Fox, 80 N. La Salle St., Chicago 2, Illinois.

Nov. 12-13—Cornell Nutrition Conference; Hotel Statler, Buffalo, N.Y.; chm., Dr. F. W. Hill, Poultry Husbandry Dept., Cornell University, Ithaca, N.Y.

Ohio Egg Cooperative To Build New Plant

MILFORD, OHIO—The Ohio Valley Egg Cooperative whose Milford plant was destroyed in a $100,000 fire Jan. 25, will erect a new building on the site, incorporating modern egg grading and handling facilities, Lloyd Mullett, manager, has announced.

The cooperative is owned by 18,000 egg producers in the Ohio, Indiana and Kentucky area.

Mr. Mullett also announced that Aytle Creager, Williamsburg hatchery operator, has been named a director of the egg cooperative to replace the late Ed Saxton. He stated further that Ralph B. Vorhis, Mason, president of the cooperative, has been appointed a director of Federated Egg & Poultry Sales, with which the cooperative is affiliated.

Grain Elevator Being Built in Oklahoma

WAGONER, OKLA.—A new 1 million bushel grain storage elevator is being constructed at Wagoner by Stanley Synar, Muskogee, Okla., cattle and real estate operator.

The elevator, which will be used for storage of wheat, may eventually handle 5 million bushels of grain annually.

The structure will be 400 ft. long and 100 ft. wide. The unit is expected to be in operation by April 1.

Manager Named

NEW YORK—The multiwall division of Hudson Pulp & Paper Corp. has announced the appointment of Philip D. Kent as district manager for the Chicago territory. A native of Chicago, Mr. Kent was graduated from DePaul University. Prior to joining Hudson, he gained experience in sales and sales research in specialty papers for industrial use.

For Faster Drying...

Select ANDERSON DRYERS

• Anderson 72-tube rotary steam dryers are unsurpassed for fast, low-cost drying! These high-efficiency units feature superior steam circulation and heat transfer features. Built for durability, they feature an entire shell of steel plate reinforced with channel iron frames. Installed as a single unit, Anderson Dryers also are stacked two or three high to suit your tonnage.

For uniform, efficient, fast drying of any free flowing material, obtain complete information on Anderson Dryers.

Write for catalog today.

Over 75 Years Experience...

CORN GERMS • CRACKED CORN
OATS • SESAME • CRACKED SOYBEANS
WHOLE KERNEL CORN AND WHEAT
WHOLE FLAXSEED

THE V. D. ANDERSON COMPANY
Division of International Basic Economy Corporation / 1944 West 96th STREET • CLEVELAND 2, OHIO

Whitmoyer KEMITRACIN

the purified ANTIBIOTIC complex— that does your feed antibiotic job better!

Send for complete scientific data.

WHITMOYER LABORATORIES, Inc.
MYERSTOWN, PENNA.

NATIONAL CHAMPION

at TWIN ELMS FARM

ON WIRTHMORE FEEDS

COURAGEOUS CASCADE

Courageous Cascade is the new National Production Champion in her age class on H. I. R. test.

HER RECORD

305 days 2x milking
4 years 9 months of age
16,668 lbs. milk
829.0 lbs. fat

THE ENTIRE TWIN ELMS HERD IS FED ON WIRTHMORE DAIRY FEEDS

Twin Elms Farm, North Abington, Mass. is owned by Mr. Kenneth M. Stevens. The herd is managed by Morris Copeland under whose capable supervision these outstanding records were made.

Good management, high quality roughage and quality dairy feeds combined to increase the 1957 herd average by 2,316 lbs. of milk and 112.5 lbs. fat.

HERD AVERAGES

1956	1957
75 cows H.I.R. 8,405 lbs. milk 446.1 lbs. fat	67 cows H.I.R. 10,721 lbs. milk 558.6 lbs. fat

JESTER COURAGEOUS TANIA

Massachusetts State Record
365 days 2x milking
7 years 1 month of age
19,209 lbs. milk 1,048.8 lbs. fat

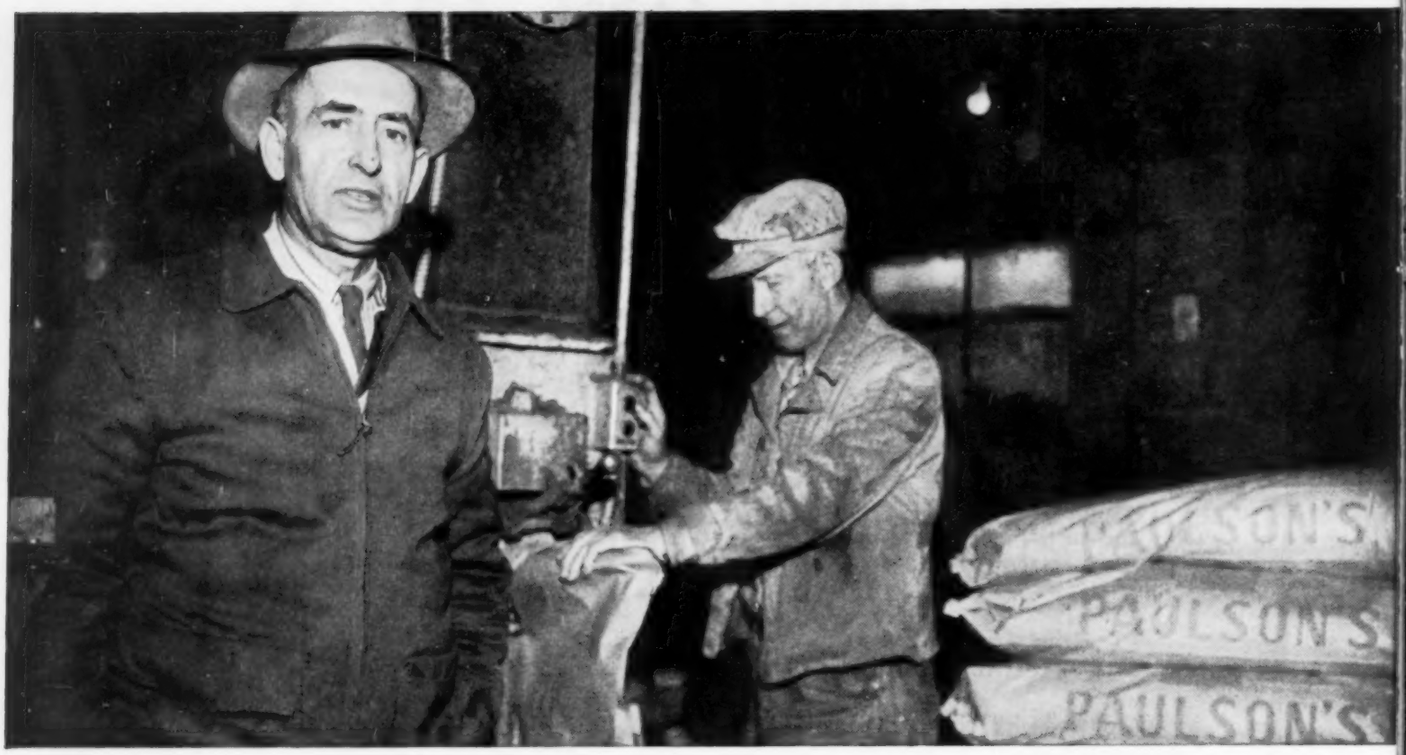
WIRTHMORE®

WIRTHMORE POULTRY·DAIRY·STOCK FEEDS

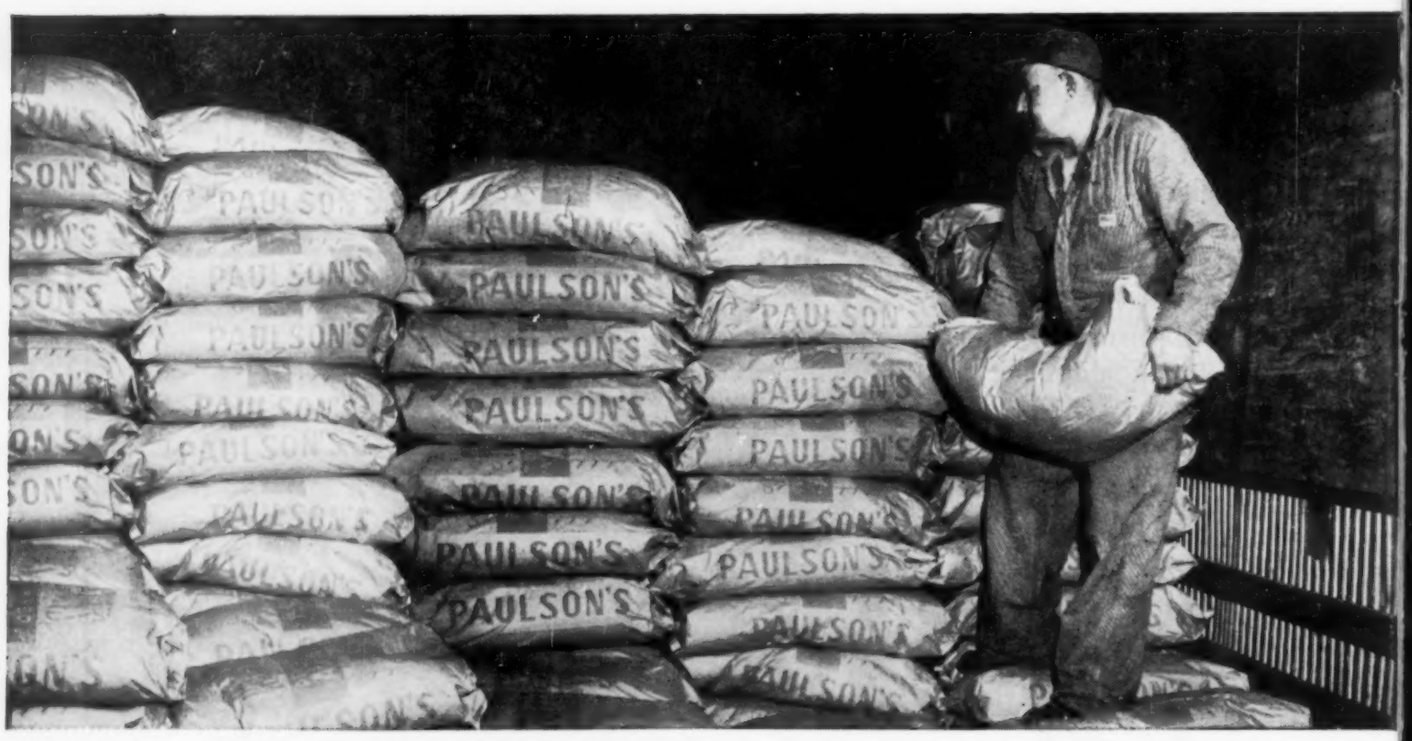
WIRTHMORE FEEDS INC., WALTHAM 54, MASSACHUSETTS

Mills at: Olean, N. Y. • Toledo, Ohio • Brattleboro, Vt. • St. Albans, Vt. Concord, N. H. • Bridgewater, Mass. • Preston, Md. • Hickory, N. C.

"Not one broken bag



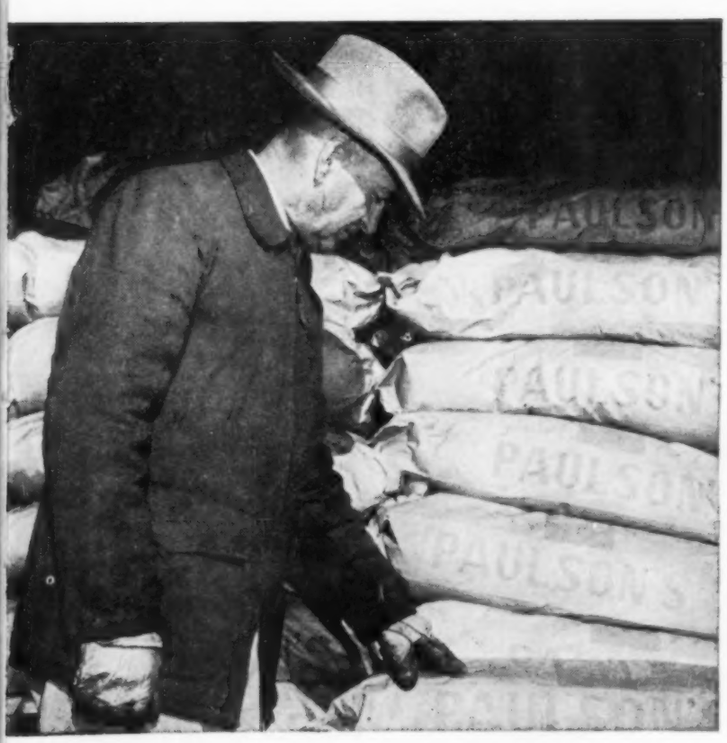
"WONDERWALLS save us money," says Mr. Paulson (left). "Of our 4000-ton volume of meal, 3000 tons are packed in one hundred thousand 50-pound WONDERWALLS. When we began using WONDERWALLS not only was our breakage problem eliminated, but I found they were saving us money. Also, they are easier to handle and take up less warehouse room."



"WONDERWALLS stack—and stay stacked," reports Mr. Paulson. "Bags don't slip when they're piled one on top of the other. This is a great advantage from the hauling standpoint. There's no shifting in the truck or railroad car as a result of quick starts and stops. They just seem to conform to each other. These WONDERWALLS stay that way until they're unloaded."

with WONDERWALL™!"

"We've eliminated breakage," states Mr. Paulson. "In our plant the biggest problem had been when bags were moved from one place to another. Now, with WONDERWALLS, we've eliminated that problem, too."



"WONDERWALLS mean satisfied customers," Mr. Paulson says. "The buyer wants his bags to stand up under rough handling. WONDERWALLS sure do. They make a better deal for our customers as well as for us."

Reports H. A. PAULSON, Owner of Paulson Dehydrated Products Co., Luverne, Minn.

"Since we started using WONDERWALLS, we've never had a broken bag! When we were using regular kraft multiwalls, we'd send out a truck load of alfalfa meal and we'd get back 10 or 12 broken bags every time. WONDERWALLS changed all that!"

An unusual case history? On the contrary, it's typical! Everywhere WONDERWALLS are put to work, the report is the same. WONDERWALLS *reduce breakage in a big way or eliminate it altogether.*

WONDERWALLS outperform ordinary multiwalls because they're made of Clupak* kraft—the remarkable paper with built-in stretch. Result: WONDERWALLS stand up under the rough and tumble punishment that breaks ordinary multiwalls.

That's not all. WONDERWALL bags pack faster, handle easier and stack better. *And save you money.* There is no other multiwall on the market that can match WONDERWALL performance.

Best of all—WONDERWALLS don't cost a penny more.

Try this new, superior multiwall. Order a trial shipment of 5000 WONDERWALLS on your next carload. Write Multiwall Bag Division, West Virginia Pulp and Paper Company, 230 Park Avenue, New York 17, N.Y.

See it at our exhibit,
AMA Packaging Exposition, Chicago

West Virginia Pulp and Paper

WV

*Clupak, Inc.'s trademark for extensible paper manufactured under its authority.

JOE BROOKS

BY AL P. NELSON

No One Has a Corner On Ideas

It was close to 10 p.m. and Joe was watching television with his family when there was a noise outdoors, like a car blowing out a muffler.

"Holy cow!" Joe exclaimed, getting to his feet. "What in the world was that?"

He went to the window, pulled the shade aside and peered outdoors.

"Looks like an old jalopy at the curb," he said to Mary and the twins. "Some man is getting out. Hey, he's coming up our sidewalk."

The next moment the doorbell rang, and Joe went to the door.

"Hi, Joe!" came a cheery voice. "Hope you're not going to bed yet, or entertaining company."

"No, Milt!" said Joe. "Come in. Is that your car out there?"

"Yeah," admitted Milt reluctantly. "It isn't firing right. Gosh, didn't she make a big noise? My girl don't like to ride in it when it acts up that way."

Joe chuckled, but said nothing.

"I got a business idea while I was eatin' chili with my girl," Milt said, "and I got so excited about it, I told her to go home by herself while I went to see you."

Joe whistled. "Man, it must be a good idea. Come on out into the kitchen. We can talk there while the family watches the rest of this western."

"Joe," said Mary, "maybe Milt would like a piece of that apple pie in the icebox. And a glass of milk."

"Oh, would I!" exclaimed Milt. "My stomach never gets filled up. And it's burnin' like fire from that chili."

So Joe and Milt went into the kitchen. Joe got the pie and milk ready for Milt, and the employee ate it with so much gusto that Joe's mouth started to water, and he cut a piece of pie for himself.

"I had a piece for supper, too," he whispered to Milt. "I hope Mary doesn't see me eatin' this one. She's rationed me on pie—one piece a day."

Milt chuckled. "That's why I ain't married, Joe. I don't believe in being rationed on anything."

Joe cleared his throat. "Well, what's your idea? I'm gettin' curious."

Milt downed the last of his milk and licked his lips. "Joe," he said, "we hear a lot about some things in the press and through talk, but sometimes we don't know a darn bit more about such things than we did before."

Joe frowned. "You're awfully clear," he said. "Confuse things a little more."

Milt grinned. "Well, lemme put it this way. You read a lot about Russia, for example, and yet you and I don't know what it really is like inside Russia, do we?"

Joe considered for a moment. "No, I guess we don't."

"Okay," went on Milt briskly. "Now take a look at our business. Farmers don't really know what makes it tick, do they? Oh, they get their feed here, or have it delivered. But they don't see all the gears, right?"

"Well, suppose they don't. So what?"

Milt grinned. "Joe, we've got to do a better advertising job, and then when farmers know more about us, they'll buy more feed and farm supplies."

"You mean I'm not spending enough for advertising?" Joe asked. "Why I'm around 2%. That's all I can stand for my feed mill and farm store."

"Joe, I got an idea that is going to make this business the advertising envy of every farm supply store in the county."

"Yeah?"

More Advertising

Milt leaned forward. "Here's what we can do, Joe. Buy about five full pages in the local weekly, one page ad per week for five weeks."

Joe gasped. "Think I'm made of money?"

"You'll get the dough back in increased volume and extra profits," Milt said. "The first ad will show pictures of our mill machinery, including our pellet mill, our bulk storage bins for grain and concentrates and our complete feed storage tanks for farmer self service outside. In other words, Joe, when the farmer looks at that ad and those pictures he sees our mill operation complete at a glance."

"Yes."

Milt smiled eagerly. "Now, the next step is how we deliver feeds.

(Turn to page 32)

Shelley Says
Call anytime! I'm always "in"
to anyone who wants to talk
Shellbuilder pure crushed reef
oyster shell. Put this in your
little black book – CA 7-8191
Shellbuilder

SHELLBUILDER COMPANY • MELROSE BUILDING • HOUSTON, TEXAS / *Territories open for qualified brokers.*

Use Your Own Salt and Calcium with
Herman Nagel's
Formula B
...to Supply Every Needed Mineral
in a form so soluble
"it melts on your tongue."
The HERMAN NAGEL Co.
53 W. Jackson Blvd.
Chicago 4, Illinois

SPLIT-HOUSE TESTS PROVE

YOU CAN'T BEAT BROILERS BASED ON NICHOLS 108 MOTHERS AND LEADING MALES FOR GROWTH AND FEED EFFICIENCY UNDER COMMERCIAL CONDITIONS.

ALABAMA

Four lots of split-house tests — 5000 birds each lot — 2500 each side of house.

Age		Wt.	F.E.
9 wks 2 days	V108	3.39	2.36
	VX	3.38	2.35
8 wks 4 days	V108	3.07	2.22
	VX	3.06	2.31
9 wks 2 days	V108	3.30	2.36
	VX	3.34	2.28
9 wks 4 days	V108	3.71	2.21
	VX	3.61	2.23

DEL-MAR-VA
(Feed Concern)

		Wt.	F.E.
9 wks 3 days	V108	3.42	2.65
	VX	3.28	2.56

GEORGIA

		Wt.	F.E.
10 wks	V108	3.60	2.30
	VX	3.53	2.29

DEL-MAR-VA
All Trials
9 wks 3 days

	Wt.	F.E.
V108	3.55	2.63
VX	3.36	2.57
V108	3.49	2.64
VX	3.28	2.59
V108	3.49	2.69
VX	3.31	2.55
V108	3.45	2.58
VX	3.27	2.63
V108	3.43	2.69
VX	3.31	2.53
V108	3.41	2.69
VX	3.25	2.52
V108	3.40	2.61
VX	3.28	2.50
V108	3.39	2.63
VX	3.12	2.56
V108	3.30	2.72
VX	3.41	2.53
V108	3.23	2.65
VX	3.21	2.58

10 different feed trials using two popular crosses.

WANT YOUR OWN SPLIT-HOUSE TEST?
LET US KNOW
AND WE'LL HELP YOU SET IT UP.

And don't forget that there are no other birds that give you this kind of growth *PLUS* the production and hatchability you can count on from Nichols 108s.

RESEARCH MAKES THEM BETTER
NICHOLS

Nichols Incorporated

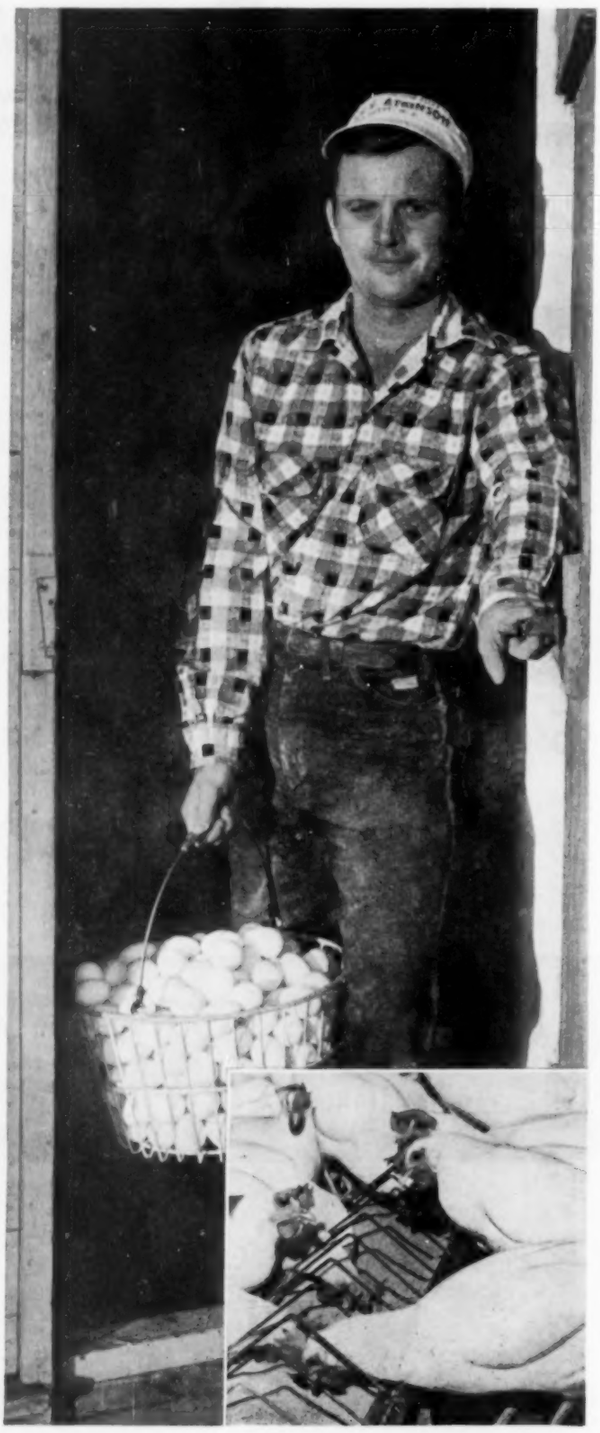
Exeter, New Hampshire

SHELLBUILDER COMPANY • MELROSE BUILDING • HOUSTON, TEXAS / *Territories open for qualified brokers.*

Chicago 4, Illinois

Users report on:

Aureomycin for



"50,000 extra eggs per year from our 5,000 bird flock"

says O. Watson Search of Cream Ridge, N. J.

"The introduction of AUREOMYCIN® into our layer mash 2 years ago has resulted in at least 50,000 extra eggs (139 cases) per year from our 5,000 bird flock. In addition, AUREOMYCIN has reduced our mortality losses by at least 25% and helped cure our flock of CRD.

"After trying different levels of AUREOMYCIN in feed, we've settled on using it continuously at the rate of 30 grams a ton of feed. When CRD appears, we raise it to 60 grams a ton. The cost is low and our over-all egg income has increased at least 5%.

"It was our feed store dealer who first recommended AUREOMYCIN to us. He reported that the farmers in the neighborhood, who were using it, were getting good results . . . more eggs, healthier birds, less mortality."

You can increase your egg income just as Mr. Search has. Ask your feed dealer or feed manufacturer for feeds containing AUREOMYCIN. Feed continuously! American Cyanamid Company, Agricultural Division, New York 20, New York.

®AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.

CYANAMID
AUREOMYCIN
IN FORMULA FEEDS

Says Edward J. Bows

"$2,000 e

"When we started feeding AU layers 18 months ago, I notic were getting more eggs. Ta had a better shell texture.

"Hatchability of the eggs, stock, has been stepped up by ing hens have been producing

"We average 270 dozen eggs costs by 1½¢ per dozen egg

®AUREOMYCIN is American Cya

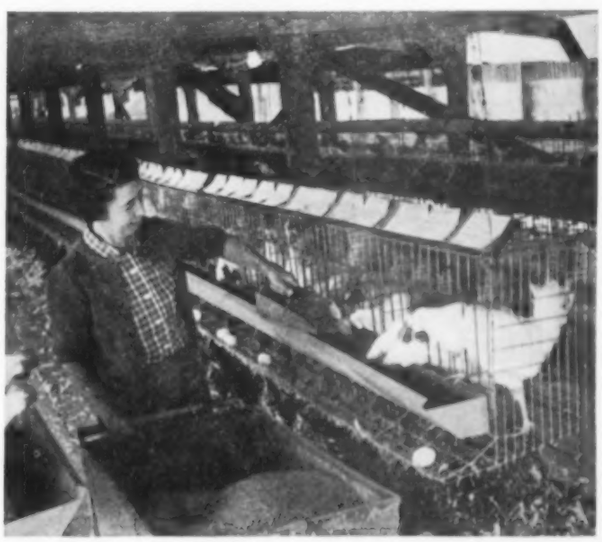
more egg profits

"Better health . . . more eggs . . . fewer culls . . . more profits." These are the featured benefits mentioned over and over again in the reports from flock owners using formula feeds containing AUREOMYCIN.®

Egg producers throughout the country are reading these success stories *now* — and will continue to read them all through the year — in national, sectional and local farm publications.

These advertisements are designed to help flock owners know more about the outstanding antibiotic for layer and breeder feeds — and to help you sell more formula feed. Each advertisement reminds consumers to buy formula feeds from his feed manufacturer or feed dealer. And each advertisement prominently displays, in the logotype, the words "formula feeds."

If you are not making layer or breeder feeds containing AUREOMYCIN, plan to do so. Increasing consumer acceptance of such feeds is your assurance of higher sales volume. American Cyanamid Company, Agricultural Division, New York 20, N. Y.



Says Mrs. Worden Dilley of Sebastopol, California:

"Increased daily average production from 60% to 70%–with Aureomycin"

"By using AUREOMYCIN® continuously as a preventative in feed," says Mrs. Dilley, "we are not only insuring against possible losses from disease but realizing the maximum potential of our hens.

"AUREOMYCIN has helped us increase daily average lay from 60% to 70% —at a cost of about 1¼¢ extra per hen every six weeks. If we got only one additional egg per hen during the six weeks' period that alone would pay for the cost of AUREOMYCIN, and, of course, we are getting far more production than that!

"Our usage of AUREOMYCIN is more than paying its way in terms of better flock health and in higher egg production."

Ask your feed manufacturer or feed dealer for layer feeds containing AUREOMYCIN. Keep flocks producing at their maximum peak throughout the year. American Cyanamid Company, Agricultural Division, New York 20, New York.

CYANAMID
AUREOMYCIN
IN FORMULA FEEDS

®AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.

r of Lititz, Pa.:

xtra income yearly from my 4,000 layers"

OMYCIN® to our 4,000 within a week that we eggs were larger and

oduced by our breeder % and the regular lay- 5.2% AA quality eggs. a day and have cut feed by using AUREOMYCIN.

"I estimate that, with AUREOMYCIN, we must be getting an extra 50 cents per hen per year in increased egg sales because of higher quality and production. That gives me an added income of about $2,000 a year."

Get the advantages Mr. Bowser has gotten! Ask your feed manufacturer or feed dealer for layer and breeder feeds containing AUREOMYCIN. American Cyanamid Company, Agricultural Division, New York 20, New York.

CYANAMID
AUREOMYCIN
IN FORMULA FEEDS

and Company's trademark for chlortetracycline.

®AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline

We'll print about eight or ten pictures of our bulk truck actually delivering feed. One pix will show a poultryman getting bulk feed, another picture will show a cattle raiser getting feed and still another hog feed. Each picture will be identified, with copy telling how big the farm is, how many hogs or cows or cattle, and how much hired help."

"And we can stress the savings with bulk feed, too."

"Right," said Milt. "The third ad, Joe, will show about eight pictures of our mobile operation, grinding and mixing for all types of farmers and augering feed right where the farmer wants it. You see, so far we have shown mill operations, feed delivery operations and mobile operations, each in a separate ad, naming farmers, and not trying to junk all this information in one ad. You'll show your business in divisions, related, of course."

"You've talked about three ads," Joe said, somewhat impressed. "Earlier, you mentioned five."

"Oh, sure," Milt said easily. "The fourth ad would show lots of pictures of our farm supply store, and name all the items we have to sell. The fifth full page ad would tell about our Endeavor branch mill and store, Windy Kramer's routeman service and our fertilizer business. I figured we could combine those three divisions in the last ad—unless you want to spend the money on some extra full page ads."

"Wait a minute," Joe said. "I do think you have a sound idea, Milt. I have a yearly contract with the newspaper on a per inch basis and so a full page ad won't cost me too much. Maybe this idea of yours is worth trying. I could have reprints made of each ad, too, and tack up a series on the farm store wall. It would make quite a show."

"Of course, it would, Joe. Why, after this ad series is over farmers will know everything about you, even if you wear white or red underwear."

"Hey, wait a minute. I want some privacy."

Milt went on. "Trouble is most feed dealers assume farmers know all about their equipment, products and services—and they don't. You gotta tell 'em and you gotta show 'em through pictures and copy. You—" Milt's attention wandered.

"What's the matter, Milt?"

Milt grinned. "Joe, I'm hungry again. There's still some pie left. Do you think—"

"Sure," said Joe. "I'll have another piece, too, and I'll make some coffee for both of us. Milt, if this ad idea works out, and we can tell after one or two ads have been run—you'll get a small bonus."

"Oh, Joe," smiled Milt, "how I need that bonus now. My car payment is overdue. I spent too much on—well—you know. Could you, could you—"

"Lend you $25 now?" asked Joe.

"Why, Joe," smiled Milt happily, "you're a mind reader. Oh, thanks. My car isn't much but it's the only transportation I've got, and—"

Joe handed over the money. "If the ad idea works, it's a bonus," he said. "If the ad idea doesn't work, half—or $12.50—comes off salary. Okay?"

Milt nodded. "I love this pay incentive and bonus idea, Joe. When I really get behind the eightball financially, I can think up good ideas. So long. See you tomorrow . . . "

California Livestock Promotion Planned

SAN FRANCISCO—The California Cattle Feeders Assn. joined with other delegates of the livestock and beef industries recently to form plans for a California livestock and promotion committee.

Representatives from 15 organizations gathered at the University of California's Giannini Hall. Groups included were the California Cattle Feeders Assn., California Cattlemen's Assn., Western States Meat Packers Assn., meat retailers and restaurateurs.

They discussed the formation of a committee to act in an advisory capacity to the National Livestock & Meat Board with the purpose of expanding meat promotions in California.

Egg Producers Plan Bigger Flocks

COLUMBIA, MO. — Missouri egg producers expect to continue a trend to larger laying flocks during 1959, according to Ted Joule, University of Missouri extension poultry marketing specialist.

A survey of 127 producers owning 1,000 or more hens showed that the average size of their flocks was 1,780 layers. The survey showed that growers intend to increase their operations an average of 25% — to 2,250-bird flocks—during the coming 12 months.

Of the flock owners answering the questionnaire, 75% produced their eggs with a floor operation, 17% had individual cages, 3% had group cages and the remainder had a combination of types of operations.

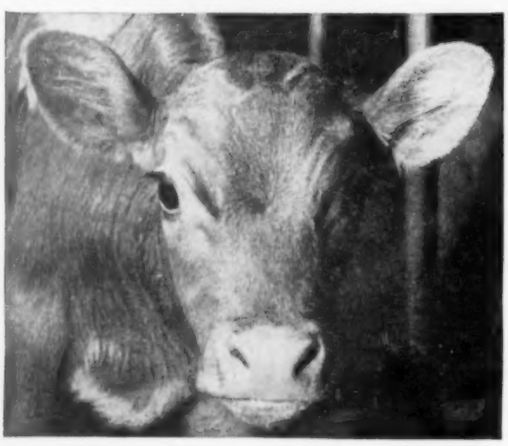
Average egg production of the flocks was 214 eggs per hen annually.

Bulletin Covers Control Of Swine Roundworm

LINCOLN, NEB.—A review of research and other information regarding control of the large roundworm in swine appears in a new bulletin, "Worm Eggs Cost You Money," recently published by the University of Nebraska Extension Service.

Much of the pamphlet is devoted to discussion of worm remedies: Skim milk, sodium fluoride, cadmium anthranilate, cadmium oxide, piperazines and hygromycin B.

"Hygromycin B," says the bulletin, "is highly effective and more nearly meets the requirements of an ideal wormer than any of the former compounds. In the 1957 North Platte trial it eliminated almost all of the worms."



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Going 'Like 60' for 50 Years in Broiler Nutrition

The progress made during the past 50 years in broiler nutrition is almost unbelievable. Yet, the important developments of the past few years can be scarcely more than a reflection of that which is still to come.

By Dr. G. F. Combs
University of Maryland

Dr. Gerald F. Combs

AUTHOR—Dr. Gerald F. Combs is nutrition professor in the department of poultry husbandry at the University of Maryland, College Park. He was born in 1920 in Olney, Ill., and reared on a farm near Olney. He obtained his B.S. degree from the University of Illinois in 1940 and his Ph.D. degree in animal nutrition from Cornell University in 1948. He served as a nutrition officer in the U.S. Army from 1941 to 1946. Since 1948, Dr. Combs has been a member of the University of Maryland poultry department staff, engaged in nutrition research. In 1953 he received the American Feed Manufacturers Assn. award for poultry nutrition research, which included work on antibiotics in poultry feeding.

EDITOR'S NOTE: The accompanying article is another in a series being published in Feedstuffs as part of the observance of the feed industry's "Golden Year." The 12 months following the American Feed Manufacturers Assn.'s 50th convention in May, 1958, were designated as the Golden Year, focusing attention on industry and feeding progress. In this connection, Feedstuffs is publishing a series of articles on nutritional advances and feed industry operations. This article, by Dr. G. F. Combs, shows the tremendous progress made in feeding broilers.

A Golden Year Feature

It is always interesting to look back, relive a bit of the past, and recognize those significant landmarks in research upon which the present is based. This is a special treat in the field of broiler nutrition, where the progress made during the last 50 years is almost unbelievable. Such a look at the past not only illustrates amazing progress, but also alerts one to the opportunities which lie ahead. Actually, the science of nutrition, as we know it today, is quite young. The important developments in broiler nutrition during the past few years can be scarcely more than a reflection of that which is to come in the future.

EARLY CONDITIONS — At the turn of the century, young chicks were first fed hardboiled eggs mixed with stale bread which had been moistened with milk. This mixture was broken into crumbles of moist consistency, seasoned with black or cayenne pepper and fed with water or milk for the first several days. After this, the feed consisted mainly of grains, beef scraps or chopped meats, grasshoppers and other insects, pounded crockery, gravel, oyster shell and clean milk or water. Sunlight and good range were essential.

Dry mashes did not appear on the scene (to be fed with grain) until about 1900. In 1909, the merits of wet and dry mash feeding were discussed seriously in a report from the Maryland Station (Md. Agr. Exp. Sta. Bulle. 138). One dry mash recommended for growing chicks consisted of cracked corn, wheat, meat scraps, grit, oyster shell and charcoal. Even then, the chicks were started on a boiled egg-rolled oats mixture soaked with milk, and then changed to dry mash fed with finely cracked corn, wheat or oats. In addition, green food, milk, water, grit, oyster shell, and cut bone and sunlight usually were provided.

TIMES HAVE CHANGED — The feed systems recommended in 1909 probably sound slightly ridiculous and incomplete to us in 1959. Today, any poultryman can contact his favorite feed dealer and have delivered (in bulk if he wishes) a very efficient high energy broiler feed which probably will contain most of the following supplements: Riboflavin, pantothenic acid, niacin, vitamin B_{12}, choline chloride, vitamin A, vitamin D_3, vitamin E, vitamin K, calcium, phosphorus, salt, manganese, iodine, iron, copper, cobalt, zinc, DL-methionine, added fat, an antibiotic, an arsenical, an antioxidant, a coccidiostat and sources of the "unidentified growth factors."

But let's pause just long enough to recall what was known about our present nutritional requirements for feeding broilers in 1909. This was before the term "vitamine" existed. In fact, it had been scarcely 30 years that mineral matter (ash of milk) had been recognized to have nutritional significance when added to diets containing fat, protein, carbohydrate and water.

THE VITAMIN CONCEPT—Eijkman, in 1897, had observed polyneuritis in chicks fed polished rice and found that rice polishings contained something which would prevent this condition. He thought that a toxic substance was present in the polished rice which was overcome by an antidote contained in the rice polishings. The possibility that additional essential nutrients (other than water, protein, fat, carbohydrate and ash) may be needed, had not occurred to him.

In 1901 Grijins did offer this explanation, and in 1906 Sir Frederick Hopkins (English) quite independently described an "accessory food factor" which was essential for proper nutrition. In 1907 McCollum (now emeritus professor at Johns Hopkins University) and Osborne and Mendel at Yale (1909) described a nutritional deficiency disease which later turned out to be vitaminosis A.

In 1912, less than 50 years ago, Casimir Funk (London), working on a potent concentrate of what we now know as thiamine, coined the term "vitamine". By 1913, fat soluble A and water soluble B were recognized as being different nutritional substances.

Commercial rearing of confined poultry was not possible until 1922 when Dr. McCollum (then at Johns Hopkins) demonstrated that fat soluble A actually contained two different nutrient components. One was called vitamin A and the other vitamin D. He also found that chicks exposed to the Baltimore sunlight did not require a source of vitamin D. In that same year, he found also that cod liver oil was a good source of both vitamins A and D, and the Wisconsin group (Hart, Halpin and Steenboch) demonstrated that cod liver oil would prevent leg weakness in chickens. The following year Hart and coworkers showed that ultra-violet light

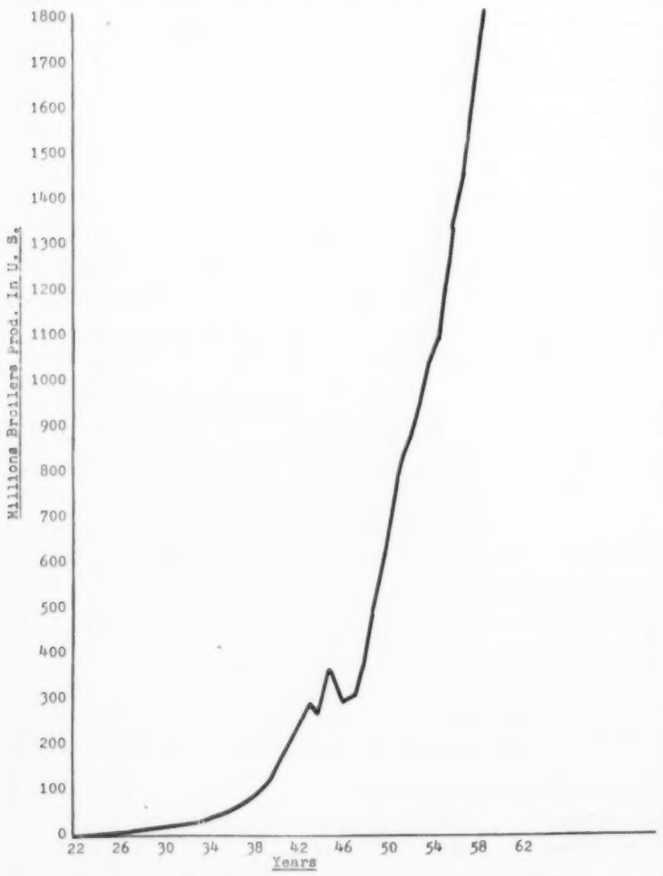

FIGURE 1. Rapid growth of the broiler industry in the U.S.

TABLE 1. Comparison of Maryland Broiler Results During the Last Six Years

	Maryland				Maryland		
	1952 Practical	1955 Practical	1956 Practical	1957 Practical*	1955 Experimental*	1958 Experimental*	1958
Age, weeks	10	9	8	7½	7½	6½	7
Average body weight, lb.	3.08	3.03	3.05	3.27	3.01	3.02	3.04
Lbs. feed cons./lb. broiler	2.81	2.37	1.96	1.95	1.60	1.19	1.04

*Males only; others included both sexes.

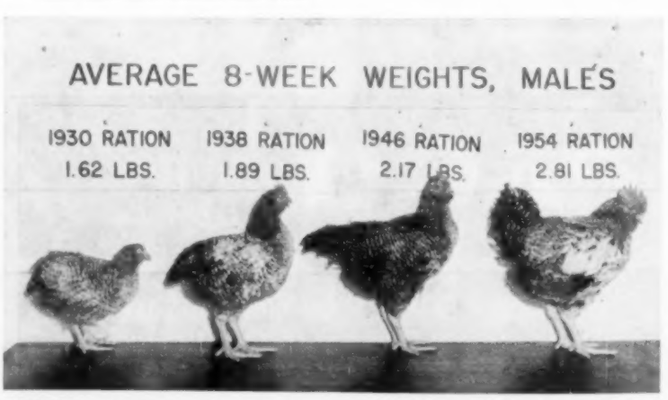

FIGURE 2. Comparison of average 8-week weights of male broilers fed rations formulated at eight-year intervals.

FIGURE 3. A scene from the "Feed to Food" program at the 1958 American Feed Manufacturers Assn. convention. Dr. C. D. Caskey (left), Cooperative Mills, Baltimore, and Dr. Combs presented their exhibit comparing performance of a 1912 chick ration with a 1958 commercial broiler feed and several 1958 high-efficiency experimental rations.

TABLE 2. Comparison of Modified 1912 and 1958 Broiler Feeds (Univ. of Maryland)

Observation	Trial	Modified 1912 Md. feed	1958 Commercial broiler feed	1958 Special feed (practical ing.)	1958 Special feed (semi-purified diet)
Average 44-day weight, lb.	1	1.14	...	3.02	3.02
	2	...	2.62	...	...
Wt. of eviscerated broilers at 44 days, lb.	1	0.71	...	2.16	2.16
	2	...	1.78	...	...
Days required to produce 3 lb. broiler	1	78	...	44	44
	2	84	49	46	47
Feed required per lb. broiler	1	3.03	...	1.28	1.11
	2	3.39	1.79	1.19	1.04
Feed required per 3 lb. broiler	1	9.09	...	3.84	3.33
	2	10.02	5.37	3.57	3.12

could replace the need for vitamin D in the diet of growing chicks. After this, cod liver oil was used quite widely, and confinement rearing of broilers became possible.

GROWTH OF THE BROILER INDUSTRY—Actually, the broiler industry itself probably did not begin until around 1922, when a few growers are known to have produced broilers in confinement (using cod liver oil) in Delmarva that year. No good records of the numbers of broilers produced in the U.S. are available until 1934, at which time only 34 million broilers were produced. This supplied only 4.4% of the chicken meat consumed in the U.S., the rest coming from farm-reared chickens. In 1957, 78% of the total chicken meat consumed in this country was from broilers, and this figure should exceed 80% this year. The broiler industry was firmly established in the 30's, grew reasonably fast in the 40's, with its rocket-like advance continuing ever since (See Fig. 1). Broiler production for 1959 is estimated to be slightly over 1.8 billion.

DEVELOPMENTS OF THE THIRTIES—The story of the vitamins did not end with vitamins A and D as far as the broiler industry is concerned. Such problems as "curled toe paralysis," "slipped tendon" and "crazy chick disease" appeared on the scene.

By 1930, fat soluble A, D and E, and water soluble B_1 and B_2 and C were the only ones known. A leg disorder involving curled toe paralysis in chicks had been described by the Cornell group in 1929. In 1931 they showed that this could be prevented by feeding yeast, alfalfa or milk. At that time it appeared that vitamin B_2 appeared to contain more than one factor. One of these turned out to be riboflavin, which was isolated in 1933 and later shown to be extremely important in practical rations. After that, new vitamin discoveries followed rapidly, so by 1940 pantothenic acid and biotin, which prevent dermatitis; niacin, required for growth; vitamin K, needed for blood clotting; choline, needed to prevent slipped tendon; and pyridoxine, required for growth, were known.

During this period a lot was also learned about mineral nutrition. Calcium, phosphorus and manganese studies were most important from the practical standpoint. The discovery in 1936 that only a few parts of manganese per million parts of feed were needed to prevent slipped tendon was quite an important development for the broiler industry.

In the mid 30's, Wilgus and others (1936) and Hayward and others (1937) showed that soybean protein required heat treatment in order to be satisfactorily used in poultry feeds. After 1940 the amount of commercially processed soybean meal used in the poultry industry increased by leaps and bounds, until today it is our major supplemental protein source. In 1941 Hayward and Haffner showed that methionine or cystine improved the value of heated soybean meal, and later this amino acid became available in synthetic form for practical use.

In 1937, studies with growing chicks and breeder hens indicated that something was present in animal proteins not accounted for by the "then known nutrients." Much effort was given to the "animal protein factor," and later the "cow manure factor," and the 1946 folacin was isolated, and in 1948 vitamin B_{12} was crystalized.

ANTIBIOTIC ERA — Even after these were available, the search continued for new factors. Using a fermentation product, made for its vitamin B_{12} content, Stokstad and Jukes (1950) found that an antibiotic called "Aureomycin" also stimulated growth. This brought forth a whole new era of nutritional research with the microflora of the host being considered from the standpoint of disease control and effect on nutritional requirements. Today, several antibiotics are in widespread use for growth stimulation and disease control.

In the meantime, vitamin E which

FIGURE 5. Time required to grow a 3-lb. broiler.

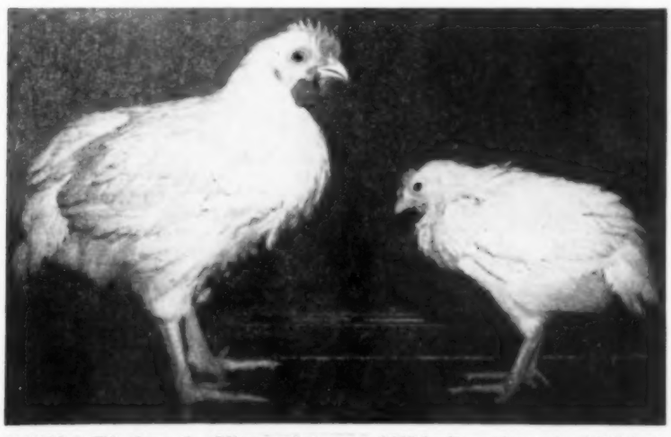

FIGURE 4. This shows the difference between a 1958 broiler ration and a 1912 feed. Both broilers are 44 days old, but the one on the right, fed the old style feed, weighs only 1.14 lb., while the one on the left, fed the 1958 feed, weighs 3.02 lb. These weights represent group averages.

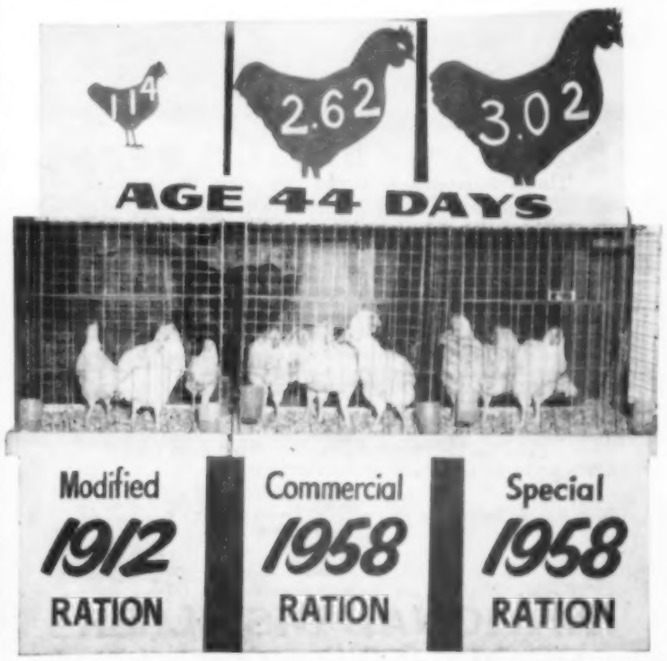

FIGURE 6. Comparison of average 44-day weights. Obtained with a modified 1912 ration and the 1958 special high-energy ration. The average 44-day weights were 1.14, 2.62 and 3.02 lb., respectively.

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FIGURE 7. Comparison of dressed weights of broilers reared to 44 days with these different rations. The weights shown above represent the average weights of carcasses after being dressed and drawn.

had been shown (Dam, 1938) to prevent "crazy chick disease" was restudied by the Connecticut group (Singsen, et al., 1954) and the Cornell group (Scott, et al., 1953) with chicks and turkeys. The interdependence of vitamin E, vitamin A and antioxidants was clearly shown by the Connecticut workers, and the Cornell group showed that vitamin E also helped to prevent a swollen hock condition in poults.

HIGH ENERGY FEEDS—Shortly after the discovery that high corn diets required high niacin fortification, the Connecticut group (Scott et al., 1947) developed the first high energy broiler ration. Although this was considerably more efficient than feeds had been, it contained too much energy for its protein content. Feather picking resulted, and debeaking became a standard practice. The "Calorie-protein ratio" appeared on the scene in 1955. This led generally to a restudy of nutrient relationships, especially between protein (or amino acids) and energy. Application of the C/P ratio has permitted the use of high fat levels (stabilized with antioxidants) with excellent results. Prior to this, high fat levels (over 8%) were considered toxic. At the same time, the DuPont group demonstrated a relationship between methionine and energy, which for the first time clarified the use of methionine in practical formulas.

Although Fraps had released much of his data on productive energy content of poultry feedstuffs in 1946, but little attention was paid them until about 1950. Later, Anderson (1955) studied metabolizable energy content as a better and more reproducible measure of the energy value of feedstuffs for poultry feed ingredients. Titus (1955) and Hill and Renner (1957) have published metabolizable energy values for feed ingredients for poultry.

RAPID APPLICATION OF RESEARCH—Perhaps as important as the discoveries themselves has been the rapid application of these findings in practical broiler feeding. Many of

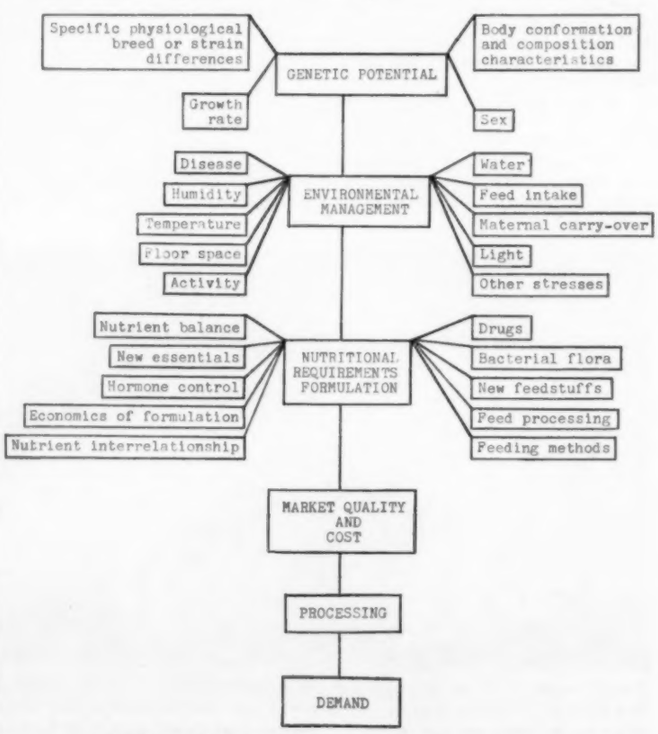

FIGURE 8. "Orientation for Broiler Nutrition Research."

these developments have greatly reduced feed costs and materially improved results. With more and more of the essential dietary components (minerals, vitamins and amino acids) available at relatively low costs, the formulation of practical broiler feeds has become far more flexible. For many years milk products and yeast were widely used to supply riboflavin, now available at only a few cents per gram. Today, no specific feed ingredient is essential. Formulas are made more and more by using ingredients which represent the most economical combination of nutrients. No doubt much more will be developed in the future along this line with improved methods of "costing analysis."

PROGRESS—In 1954 rations recommended for use in 1930, 1938, 1946 and 1954 were formulated and fed to male crossbred chicks reared under similar conditions. The marked difference in the results obtained is striking (see Fig. 2), and already, only five years later, much better results are being obtained.

To illustrate this recent progress, results of several studies conducted at the University of Maryland are shown in Table 1. It readily is apparent that marked progress has continued in the formulation of feeds for broilers. The reduction in time required to reach 3-lb. weights is quite closely related to the total energy requirement and, therefore, feed conversion in general. Of course, when unusually high potency feeds are fed, even less feed is needed. But in practical broiler feeding, faster growth rate, with improved breeding and better environmental conditions, should result in still better efficiency of feed utilization.

The following was taken from an article I prepared in 1954: "Before long, we should be able to produce 3-lb. broilers in 8 weeks with only 6 lb. of feed. Based on the actual conversion of feed to broiler on a solid basis, this would still represent only about 20% overall efficiency. Eventually, one should expect to produce a 3-lb. broiler with only 5-lb. of total feed based on a biological efficiency of 25%. In reaching this level of efficiency, we must improve our feeding, breeding and managemeat—and with time and study, these should come to pass."

Actually, the time has come and gone. In 1958, it was not uncommon for commercial broiler flocks to produce 3-lb. broilers in 8 weeks with only 6 lb. of feed per bird. Also, it was in 1958 that an average conversion of 1.04 was obtained with 3-lb. broilers fed high potency rations.

"FEED TO FOOD" PROGRAM—As a part of the "Feed to Food" program of the American Feed Manufacturers Assn. meeting in May, 1958, Dr. C. D. Caskey, Cooperative Mills, Baltimore, Md., and the author presented the results of some studies on high-efficiency broiler rations designed to illustrate progress made in broiler feeding. Dr. Norman V. Helbacka and E. C. Quillin, University of Maryland, assisted in these studies. These have been reported in detail (Feedstuffs, May 24, and July 12, 1958).

In this work, an old style 1912 feed was compared with a 1958 commercial broiler ration and with other special 1958 experimental feeds, using fast growing broiler strain male chicks. The 1912 ration was taken from Maryland Agriculture Experiment Station Bulletin 171 (1912) and modified by adding some dehydrated alfalfa meal (to replace the range), vitamin D (to compensate for lack of sunlight), and insoluble grit. The birds were reared in batteries. Probably, this feed was more nearly like many of those used around 1930, after the modifications required to use it successfully in confinement.

The 1958 special high efficiency rations contained relatively high levels of fat, ranging up to 50% in one ration. Some of these rations were composed only of ingredients available for use in practical rations, while others contained certain ingredients suitable for experimental diets only.

The results of these trials are presented in Table 2 and in Figures 3 to 7. It was in this work that the feed conversion of 1.04 was obtained. Three-pound average weights were reached in as little as 44 days when certain high efficiency 1958 special feeds were used, while it took from 78 to 84 days to produce 3-lb. birds with the modified 1912 Maryland feed. Dressing losses were greater for the old style fed birds, and they contained less meat to bone.

NEW DEVELOPMENTS—Perhaps developments like vitamin A, vitamin D, riboflavin, antibiotics and C/P ratio and their subsequent impact on feed formulation are not likely to be equalled, but progress will continue. Even now there are "unidentified growth factors" being studied by several research groups. Only recently, some of these have been explained on the basis of their zinc, selenium, molybdenum and potassium content.

The time is soon when the nutritionist should consider tailored feeds for specific purposes and conditions. This will mean studies relating requirements to growth rate, sexes, as well as stages of development. Certainly, more scientific attention must be given to the quantitative effects of microflora on requirements, the variability among individuals, the inter-relationships among nutrients, and refinement in methods of nutrient assays. It will also include studies on the effect of temperature, humidity, light intensity and length of light day; it probably will include studies designed specifically to improve resistance to disease, particularly to non-infectious type. The production of better quality broilers designed more nearly to meet the likes of the consumer is probable. Body composition as well as conformation, pigmentation and keeping qualities will be controlled to a greater extent. The need for joining hands between disciplines in making progress in the future is evident.

Figure 8 attempts to show some of the many factors which must be considered in nutritional research of the future. Perhaps more today than ever before, it is alarmingly clear that the science of physiology, nutrition, biochemistry, genetics, pathology and food technology overlap in many places. Any attempt to administer research on practical problems within only one of these areas seems somewhat questionable. There seem to be more and more unsolved problems which fail to fall clearly into but one of these "defined disciplines," without requiring the concern of another. Joint effort and more cooperation among scientists engaged in different research areas should greatly speed the solution of many of the complex problems in the future. Even so, just wondering about the next major development is probably the most interesting part of it all.

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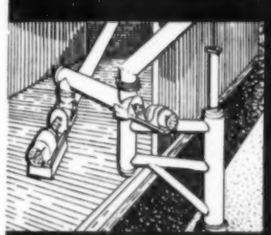

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In general, biological availability of a vitamin A source is measured by the percentage of the ingested dose which is absorbed and utilized by the animal, as compared to a defined standard.

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AVAILABILITY OF VITAMIN A IN FISH LIVER OIL
—aqueous dispersion vs oil solution—U.S.P. reference oil—100

Material	Particle Size (Microns)	No. of Animals	Avg. 3-Hr. Plasma level U./100 Ml	Avg. % Vit. A in Liver	Avg. % Vit. A in Feces
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Emulsion	1-20	70	1370	38	12
"Aqueous"	Submicroscopic	48	2370	50	7

NOTE: The same observation can be made with stabilized vitamin A beadlets, where there is no difference in the medium.

Similar results have been reported with cattle, swine, dogs, chicks and rats.

The vitamin A particles of Pfizer Vitamin A Palmitate in Gelatin are in the same size range as those found in aqueous products. This is one reason for its increased biological availability.

Small vitamin A particles most effectively utilized

Particle size of the vitamin A has been found to affect efficiency of utilization. In rats, particles of vitamin A two microns or less in diameter dispersed in gelatin gave 69% greater liver storage than an oil solution. With a 5-micron size, liver storage was 24% greater than the oil.

Even when comparisons are made with vitamin A in gelatin, the influence of particle size is apparent:

AVAILABILITY OF VITAMIN A IN GELATIN
—influence of particle size—

Material	Particle Size (microns)	Biological Availability
vitamin A palmitate	0.5-4.0	176
vitamin A palmitate	5-8	130
vitamin A palmitate	14-17	96

NOTE: Particle size refers to the size of the vitamin A particles within the beadlet itself.

As you can see, particle sizes of under 4 microns give the best biological availability.

While control of particle size is difficult, a unique manufacturing process developed by Pfizer scientists makes it possible to produce gelatin beadlets with many particles of vitamin A contained within each beadlet. Most of these vitamin A particles range from ½ to 4 microns in diameter and are distributed uniformly throughout the gelatin beadlet.

Composition and digestibility of carrier affect availability

When vitamin A oils are fed, the animal must first emulsify and disperse them as extremely fine particles before absorption takes place.

Waxes, animal fats or oils absorbed on cereal carriers do not dissolve readily in the gastric fluids, but must first be emulsified and absorbed well along in the intestinal tract.

They may actually retard absorption whereas the gelatin matrix of Pfizer Vitamin A Palmitate in Gelatin allows rapid release of the micron-sized particles permitting prompt absorption.

This results in greater biological availability as determined by liver storage and blood levels, and by growth and mortality figures.

Ask your Pfizer representative for additional facts that show Pfizer

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Pfizer Vitamin A

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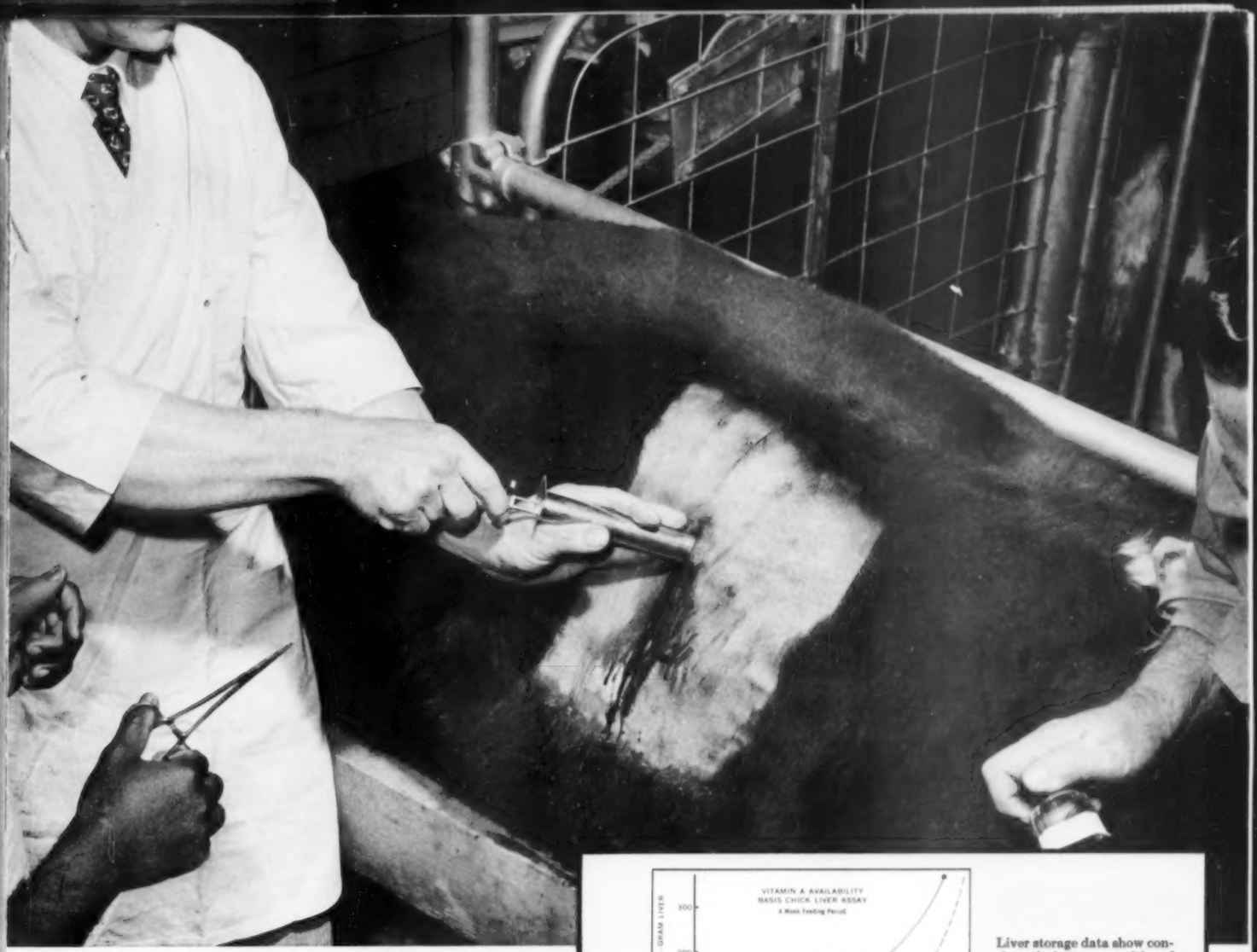
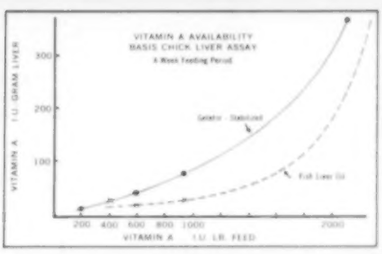
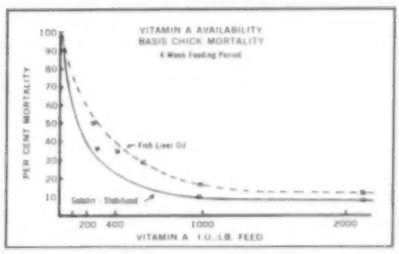


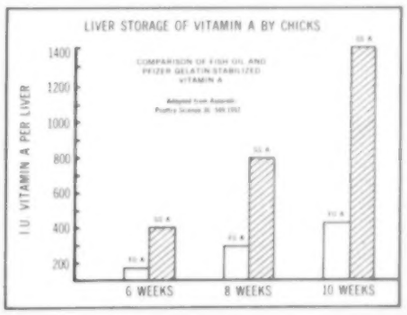
Pfizer scientists remove samples of liver tissue from living bovine to compare bio-availability of various sources of vitamin A in large animals.



Liver storage data show consistently larger quantities of vitamin A stored in the groups getting the gelatin-stabilized form. The biological availability by the liver storage criterion is about 67% greater for the gelatin product.



Mortality data indicate 86% higher biological availability of the gelatin-stabilized form.



The relative biological availability of Pfizer's Vitamin A Palmitate in Gelatin was 423%, 364%, and 405% of that of the oil form at 6, 8, and 10 weeks.

Vitamin A Palmitate in Gelatin's greater biological availability—its superior stability in feeds of all types—makes it the lowest cost source of vitamin A activity when *true cost* is considered . . . the cost of the vitamin put into your feeds, the cost of the vitamin actually utilized by the animal.

Only Pfizer's Vitamin A Palmitate in Gelatin gives you all these important advantages:

- **Outstanding stability in pelleting and pelleted feeds, mineral mixes, concentrates, high-moisture feeds.**
- **Greater bio-availability, unit for unit, than fish liver oils, other vitamin A oils, products where the vitamin is absorbed on cereal carriers or stabilized with wax, animal fat or vegetable gum.**
- **Controlled-size, dry, free-flowing beadlets assure uniform distribution in feeds. No oil to heat, no spraying, no clogging.**
- **99 plus percent pure vitamin A; no impurities to accelerate "A" loss; assay by USP and colorimetric methods gives essentially same potency.**

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John A. Brewster

Elected Director Of Chase Bag

NEW YORK—Stockholders of Chase Bag Co., at their recent annual meeting, elected John A. Brewster to the board of directors. Mr. Brewster is vice president-director of Chase's West Coast operations. He joined Chase in 1921 as a salesman, and subsequently became sales manager in Toledo and Chicago. He was assigned to extend the company's operations to the West Coast in 1938, and the following year supervised construction of a new bag manufacturing plant in Portland, Ore.

Since that time Mr. Brewster served continuously as manager of the Portland facility for Chase, at the same time functioning for several years as western regional sales director and, since December, 1958, as vice president-director of West Coast operations.

Other members of the Chase board reelected at the annual meeting were F. H. Ludington, W. N. Brock, L. S. Brown, R. N. Conners, L. S. Fowler, E. K. Ludington, Jr., F. H. Ludington, Jr., and C. S. Sheldon.

European Specialists To Visit U.S. for Study

WASHINGTON—About 25 European feed specialists are coming to the U.S. to participate in a symposium on the latest livestock and poultry feeding methods, the U.S. Department of Agriculture has announced. The symposium will begin with a series of meetings in Washington May 4-6.

The specialists, representing most of the countries of western Europe, and governments and industries in those countries, will include experts in feeding and animal nutrition.

The symposium is being sponsored by USDA and the Soybean Council of America, Inc., in cooperation with other segments of private industry, under a market development program designed to promote greater use of U.S. feedstuffs in Europe. It is being financed in part with funds accruing from the sale of agricultural surpluses for foreign currencies under Title I of Public Law 480.

These meetings will be followed by a field trip through the Midwest which will include visits to land grant institutions, federal and private laboratories, packing plants, and feed manufacturers. Further details will be announced later.

Loret Mills Research Director Resigns Post

CHATTANOOGA, TENN.—Dr. W. C. (Bill) Tully, director of research for Loret Feed Mills, a unit of Seed-Feed Supply Co., Chattanooga, the past three years, has announced his resignation.

Dr. Tully is an associate in the Elmer Wheeler Sales Training School in Chattanooga, and he is sponsoring Dale Carnegie leadership courses in northern Alabama. He said he is also planning a limited amount of consulting in the feed manufacturing and poultry processing businesses, and he will continue writing for agricultural and poultry publications.

He has had 20 years of experience in the feed business. Prior to this, he was in various college positions. He has also served as a feed consultant.

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Find out how you can use Peebles' new DDF in your dog food. For complete information and sample, wire or write: Department 45A.

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32 PLANTS Coast to Coast

Evaluating Equipment Additions

A collection of factors to consider before investing in more equipment.

By Robert Hahn
Consulting Engineer

EDITOR'S NOTE: While putting in new equipment involves different problems and different advantages for probably every feed plant, there are a number of general factors which apply to nearly every plant. In this article the author points out these factors as reminders to the feed man who is thinking about adding new equipment. The article was presented as an address at the 5th annual Pacific Northwest Feed Mill Production School recently in Bellingham, Wash. Mr. Hahn has a consulting engineering business in Spokane, Wash.

The subject "Evaluating Equipment Additions" is one that is probably as complex as any faced by an operator of a plant. This is not unique to the feed milling industry, but applies to any manufacturing or processing plant, and also to such operations as the storage and handling of grains.

There are many areas of consideration that must be explored, and the proper evaluation of each of the areas determined.

To pin-point some of the major areas of consideration, we might first establish that, among other reasons, equipment is added to: (1) Increase production capacity; (2) upgrade the product, that is to improve the quality, and (3) to reduce the production cost per unit of product. It is difficult to say that any one of these areas can be considered alone—or for that matter, as a group—without other areas being considered simultaneously.

Let us suppose that an addition is indicated in order that production might be increased. This, in all probability, would result from an increased market demand that the plant could not meet without additional equipment.

This then brings into the picture the factor of market analysis. Here we must consider the trend in the area served, and an evaluation of a projected market or demand. In other words, it must be determined whether the condition which requires additional capacity will be present next month, next year or the year and years following.

If a projection of market demand is uncertain, then it is necessary to determine the probable economic return, from the investment required, over the foreseeable market duration. This situation also raises the question of the adaptability of the proposed equipment to production of some other type of product.

Supporting Equipment

One of the other problems that is raised is that of supporting equipment. Will it be necessary to add other items of equipment in order that the unit under consideration may be utilized to its capacity? I am sure that many of you have had an experience which points up this problem.

Closely tied in with the problem of capacity is that of quality of product and quality control. Some times we find ourselves faced with the proposition that we have crowded some of our equipment, in order to obtain capacity, at the expense of quality production. Some of the areas where this is evident are: (1) The appearance of the product; (2) the non-uniformity of product, and more importantly, (3) the inability of the animals fed to convert the product into marketable gain.

Of course, it is not necessary to tell you this latter point places the manufacturer in an awkward position. It is so easy for a customer to start buying from the competition. The first factor listed is probably the easiest to establish, since appearance is determined by the eye.

Sometimes the second factor may be determined only by a laboratory analysis; however, it is closely allied with the third factor, and if not detected and corrected by the manufacturer, will be discovered by the consumer, whose methods of correction are many times unfavorable to the manufacturer, and quite often vociferous.

Cost Calculation

Assuming that an item of equipment is selected which will give an increase in capacity and an up-grading of quality, it follows that we must determine whether the addition will support itself from an economic point of view.

With the assumption that the capacity is increased to satisfy a growing market demand, and that quality will be of the highest standard, we need to look at the purse. In other words, how much does it cost, and what will it do to production costs per unit of product?

At this point we have a whole hatful of considerations to face. Some of the important considerations are: (1) Capital investment required, including cost of equipment; (2) installation costs and integration with the existing plant and equipment and flow; (3) the probable terminal salvage value at the end of an estimated life expectancy; (4) power consumption, and, if steam is required, the amount and cost; (5) annual maintenance costs including replacement of parts subject to wear out, and annual parts inventory capital expense, and in some instances, (6) the cost of the

(Turn to page 46)

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For more than 14 years the Distillers Feed Research Council has cooperated with the various agencies involved in conducting the experiments which have produced such significant results. Today, the Council is justifiably proud of its participation in this continuing program to make available the finest feeds which scientific research can produce!

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FIGURE 1

PELLET LINE ADDITION
ABC FEED MILL
ANYWHERE

REQUIRED: Production cost for pellet line to produce 7 to 8 tons of pellets or crumbles per hour.

NOTE: All costs are assumed and may or may not represent any actual installation.

Cost of equipment, including electrical, conveying and elevating	$40,000.00
Installation of equipment	7,000.00
Process Piping - (Molasses, Steam, etc.)-installed	2,500.00
Spouting and Distribution - installed	2,500.00
Total Capital Investment	$52,000.00

Assume a life expectancy of 15 years, and a terminal salvage value of 20% of the total equipment.

ANNUAL CHARGES:

Maintenance will be $45000 over 15 years, or		$3,000.00
Power - 150 KW X 300 days X 8 hours per day @ .015		5,400.00
Labor - 4 man hours per shift- 4 X 300 @ $2.25 plus 12%		3,024.00
Supervision - allocate		1,000.00
Capital expense	$52,000.00	
less 20% of $45000	9,000.00	
	$43,000.00	
$43,000.00 over 15 years -		2,866.67

THEN TOTAL ANNUAL COSTS ARE:

Capital Expense	
Capital Expense	2,866.67
Maintenance	3,000.00
Power	5,400.00
Labor and supervision	4,024.00
Total annual costs	$15,290.67

Production is 300 days X 8 hours X 7 tons per hour - 16,800 Tons

Then the annual production cost is $15290.67 divided by 16800 or $0.9101 per ton

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"down" time required to install and hook up the equipment.

By using the life expectancy of the equipment, a schedule may be set up showing the annual cost of the equipment selected, and by adding the anticipated direct and indirect labor costs of production, a total annual charge will be obtained.

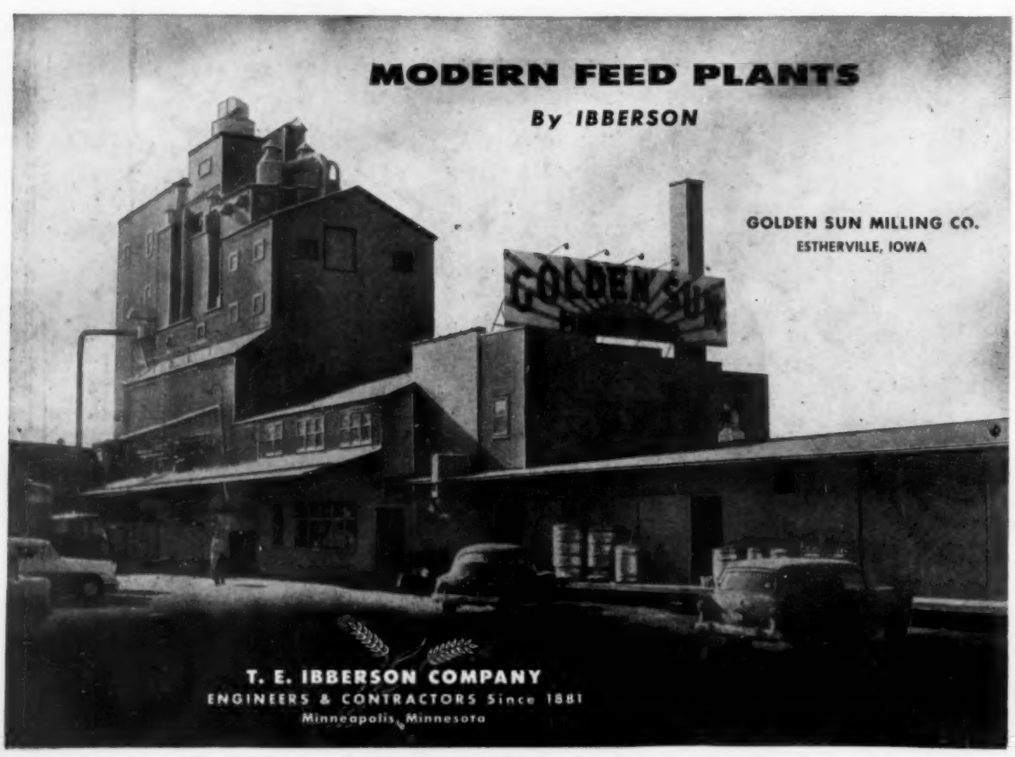
Dividing the total annual charges by the expected annual production—usually in tons—we have the expected cost per unit of product. Of course, it is recognized that the unit cost can not reflect the benefit in the area of improved appearance of product. This is a credit for the equipment that must be determined by the sales force and management, who presumably are able to anticipate the reaction of their customers.

Other Considerations

Please note that the factors listed as items of consideration are by no means complete, but rather are only some of the important areas of consideration. Each addition of equipment will present many obvious factors, and many that are less conspicuous. To mention just a few of the less obvious, we might list: The value of floor space, if it is presently used for another purpose; the cost of special tools for maintenance and repair; the supplies not included in the parts inventory; any structural changes or modifications required in the building, and additional taxes and insurance. There, of course, may be many more items for a specific installation that cannot be covered in a general approach.

There are probably as many ways to evaluate costs of equipment additions as there are concerns contemplating the additions. However, a good rule of thumb procedure is to set down the annual capital expense, which should include a credit for terminal value; an item for annual maintenance and repair charges, including parts inventory; the cost of power, and/or steam, and the labor costs for operation.

The first item, capital expense, should include all costs for the equipment installed. The maintenance item is usually sufficient if the equipment cost is divided by the years of life expectancy, plus the cost of parts subject to wear out. For example, a piece of equipment having a 10-year life expectancy will have an annual estimated maintenance cost of 10% of its value. Knowing the power requirement of the equipment, and the anticipated hours of operation, the power charges may be calculated; and knowing the requirements for steam, the cost of steam should be easily ascertained. The item of labor costs may be calculated by estimating the



Are you wasting phosphorus by over-fortifying with phosphates of low availability?

THE big difference in quality of phosphorus sources shows up in biological availability. Some sources simply don't supply phosphorus in a form that is readily available to poultry or livestock.

Over-fortification is the only way phosphorus requirements can be met when rations are formulated with these phosphates.

This is shown by a simple, and practical, feeding test* comparing an unprocessed, raw phosphate with International's dicalcium phosphate — Dynamic DYNAFOS.

Previous research had shown Imported Rock phosphate had an average biological value of 70 or less compared to dicalcium phosphate. Therefore, in the test, a practical broiler diet was fed with supplemental phosphorus from Dynamic DYNAFOS supplied at levels equivalent to 70% of the supplemental phosphorus from Imported Rock phosphate.

The table at left illustrates that chicks on Dynamic DYNAFOS showed the same rate of growth and percentage of bone ash as the chicks fed higher levels of Imported Rock phosphate.

The results clearly show that there is no reason to over-fortify rations with phosphates of low availability when Dynamic DYNAFOS meets nutritional needs with fewer pounds of product.

Practical Comparison of Phosphorus Availability

Source of phosphorus	% P	3-wk. wt. (M-F Ave.)	Feed per lb. gain	% bone ash
Imported Rock Phosphate	0.1	297 gms.	1.67 lbs.	35.38
DYNAFOS	0.07	295 "	1.76 "	34.88
Imported Rock Phosphate	0.2	306 gms.	1.58 lbs.	39.40
DYNAFOS	0.14	322 "	1.75 "	39.48
Imported Rock Phosphate	0.4	331 gms.	1.68 lbs.	45.45
DYNAFOS	0.28	334 "	1.60 "	45.15
Imported Rock Phosphate	0.6	323 gms.	1.74 lbs.	46.50
DYNAFOS	0.41	341 "	1.60 "	45.92

*International Minerals & Chemical Corporation, Release: 58-34 (May) available on request.

Dynamic DYNAFOS delivers more available phosphorus in every pound

International's Dynamic DYNAFOS is a chemically processed dicalcium phosphate that delivers proven high biological availability and is low in calcium. That's why each pound of Dynamic DYNAFOS delivers as much usable phosphorus as 2 to 9 pounds of unprocessed, raw phosphates.

You cut formulation costs because you actually need less Dynamic DYNAFOS. And unique beaded form makes handling and mixing better than ever. Write or wire your International representative for details.

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8-59

man hours of direct labor required, and making an allocation of supervisory costs.

While the manner in which this material has been presented may make it sound complicated, the procedure is in reality quite simple, when used with common-sense estimating costs, and expected production output. In this regard, a note of caution should be introduced. Do not underestimate the cost of the additional equipment. The selling price is fairly easy to determine, but be sure it includes all items required for the operation as well as for the installation of the equipment.

If the equipment requires steam in its operation, allow for the additional piping, including valves, strainers, purifiers, traps and miscellaneous controls.

Another item that is frequently underestimated, or overlooked, is the electrical hook-up. This will include starters, controls, interlocks and push-button stations, and possible additional lighting.

In estimating the electrical costs bear in mind that a feed mill installation is considered a hazardous location by the insurance underwriters. Many of you have electric rooms which may be classed as non-hazardous, but some of the hook-up, such as start-stop stations and lockouts, will still be in a hazardous area.

Probably one of the cost items most neglected in considering additional equipment is that of getting material to the equipment and taking the product away. This item may be very simple, or it may require conveyors, elevators, spouting or air handling, all of which add up rather fast.

The production capacity figure of the equipment must be on a realistic basis. Most of the manufacturers have engineering data available which permits a close calculation of quantity of product based on the material to be processed. It goes without saying that sales literature and "blurbs" which claim that dollar-for-dollar, or pound-for-pound, the equipment offered will outperform or out-produce any other equipment, is useless. Most of the data of the manufacturers is reliable and may be used in determining capacity of production. Your engineer will know where modifications need to be made.

This discussion has been limited to the proposition of "evaluating additional equipment." The same procedure may also be used in evaluating equipment replacement.

In a very few words: Additional equipment is indicated when it will increase the capacity of your plant, improve your product quality and, at the same time, decrease the cost per unit of production.

For those who are interested, a hypothetical situation has been worked out. (See Figure 1.)

FEED MAN NAMED

ST. JOSEPH, MO.—O. E. Gookins, plant superintendent of Quaker Oats Co. here, is slated to be the next president of the St. Joseph Rotary Club. His nomination was submitted at a recent meeting.

8 Regional Meetings Set in Pennsylvania

EPHRATA, PA.—Plans are nearly completed for eight regional meetings to be conducted by the Pennsylvania Millers & Feed Dealers Assn. during late March and early April, it has been announced by B. E. Zechman, chairman of the association's regional meeting committee.

Dates, sites and times for the 1959 series of regional meetings are as follows:

March 30—7 p.m., Valley Forge Hotel, Norristown.

March 31—7 p.m., Replogle's Party House, Roaring Springs.

April 1—7 p.m., Peasant Village, intersection of Routes 51 and 71 near West Newton.

April 2—7 p.m., Harvey's Smorgasbord, Spry (York County).

April 13—7 p.m., Prince Hotel, Tunkhannock.

April 14—7 p.m., Lycoming Hotel, Williamsport.

April 15—7 p.m., American Legion Home, Newport.

April 16—7:45 p.m., Schuster's Restaurant, Greenville.

Five of the eight meetings will be co-sponsored by local feed trade associations. For the past several years seven meetings have been held, but an eighth has been added for 1959 at Newport to be co-sponsored by the Perry County Feed Dealers Assn., a local feed trade group organized about a year ago.

Other local associations that will co-sponsor meetings are: Southeastern Pennsylvania Feed Merchants Assn., South Central Pennsylvania Grain & Feed Dealers Assn., Southwestern Pennsylvania Feed Dealers Assn., and the Northwestern Pennsylvania Feed Dealers Assn.

Mr. Zechman said that, according to tentative plans, the program at each regional meeting will feature a discussion of current trends in agriculture and a forward look at the feed industry in Pennsylvania.

Mississippi Bag Firm Names Vice President

YAZOO CITY, MISS.—Richard A. Port, Monroe, La., has been named vice president and general manager of First Packaging Corp. which is building a multiwall bag plant here.

Announcement of Mr. Port's appointment was made by J. F. Babbit, Jr., vice president of First Mississippi Corp., Jackson, parent company of the new multiwall bag plant.

First Packaging Corp. received its charter from the office of the Mississippi secretary of state recently. The report of its incorporation showed capitalization of $1 million.

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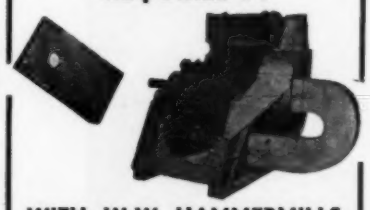

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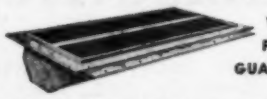

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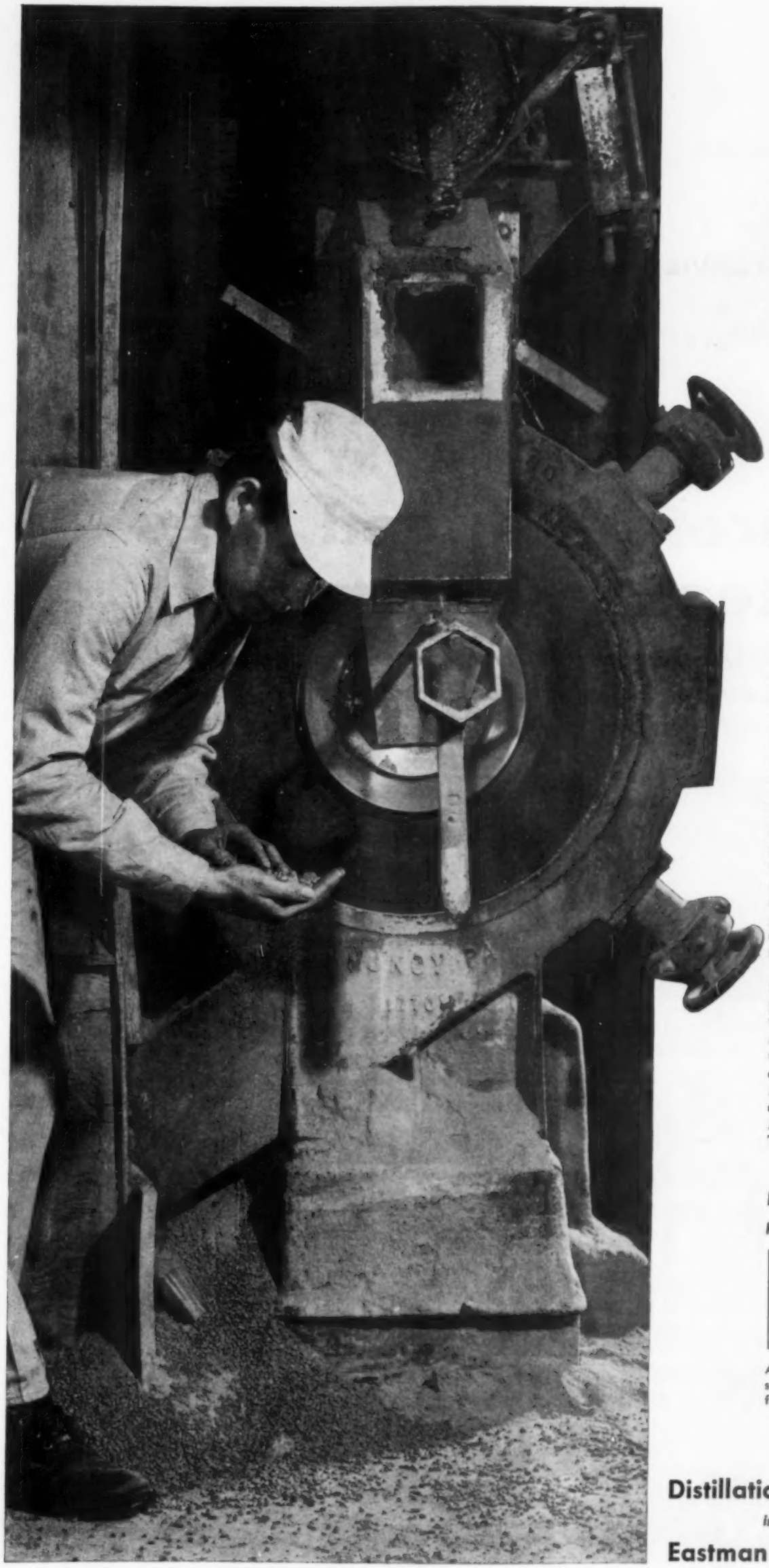

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Vitamin A is a delicate entity at best. Shoot it full of steam, pack it into pellets, and you may be setting the stage for rapid oxidative loss of the vitamin when the pellets are stored.

We came to grips with this problem when we developed our new PGB-250 Dry Vitamin A for feeds. Striving for a better solution than any heretofore, we worked out a way to wrap the inherently stable ester, vitamin A palmitate, in edible gelatin spheres and then to protect it further by food-grade antioxidants. The exact composition of the beadlets is based on experience going back to when we synthesized the first commercial vitamin A in the United States.

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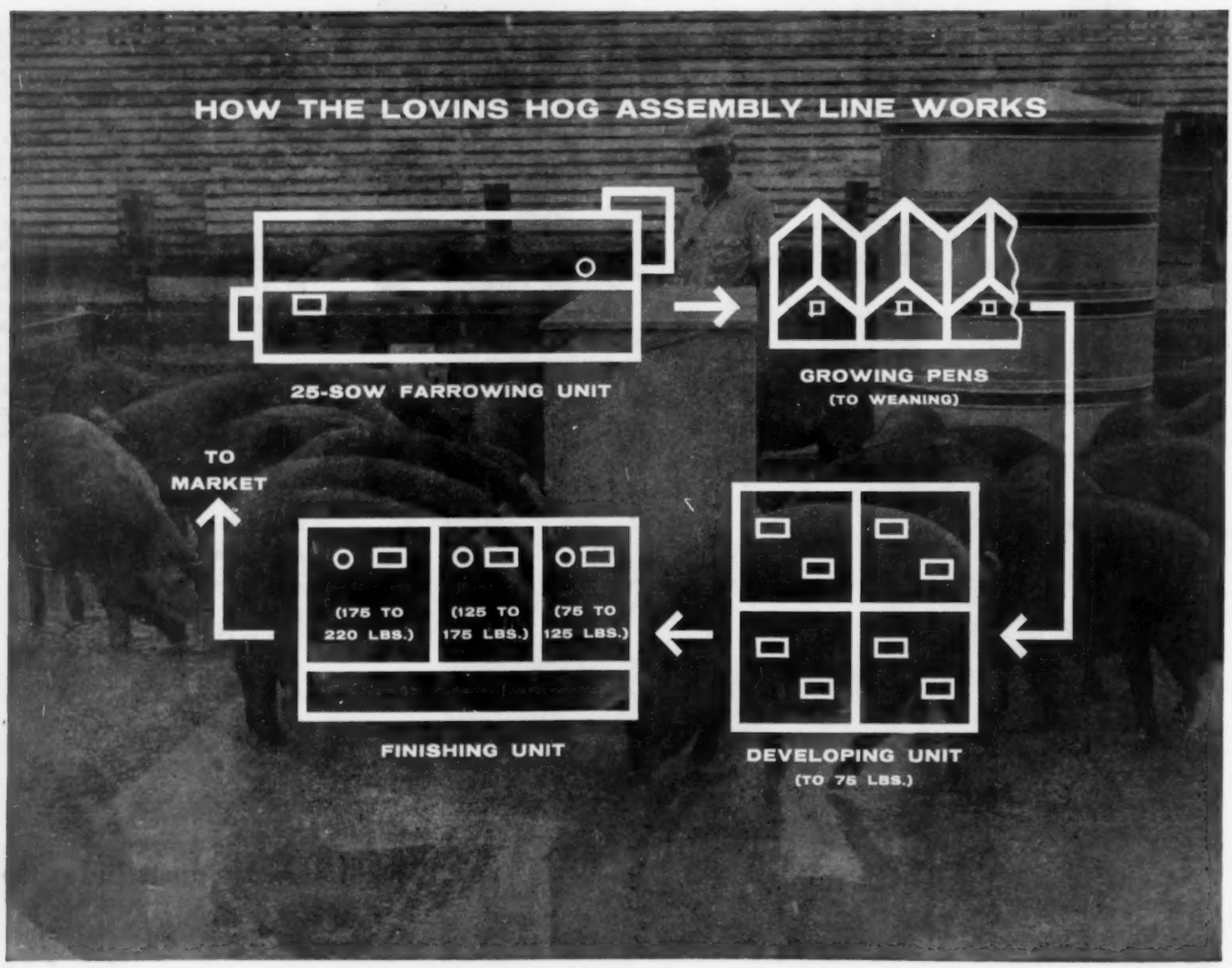
Lilly INTERVIEWS

MR. AND MRS. LYLE LOVINS,
MINIER, ILLINOIS

"We prefer to feed hogs instead of worms!"

Continuous worm control with Hygromix feeds during the pigs' critical growing period helps keep this assembly-line operation at top efficiency



Eastman Kodak Company

by Eugene S. Hahnel

It's true that Lyle Lovins checked out Hygromix as a worm-control method . . . carefully . . . methodically. It's true that he said, ". . . our experience proves that Hygromix in the feed takes care of the worm problem." But, to the Lovins, the most important contribution Hygromix feed made to their closely timed hog assembly line was something else:

"Since using feed with Hygromix," Lyle explains, "we can see that our pigs are evener, with fewer tailenders. We can market bigger bunches each time. We used to top out 25 head at a time. Now we market 60 to 100 head at each sorting. This shows how evenly they are finishing for us."

The Lovins, who operate the J. J. O'Neil farm, cross-checked Hygromix-fed pigs with a purge-type wormer. "Didn't see a single worm from the 144 pigs," observed Lovins.

The phrase, "closely timed hog assembly line" is an accurate description of the O'Neil-Lovins operation. They will soon have about 200-250 hogs rolling to market every 30 days. This represents a year-round farrowing schedule of 25 sows a month, and about 1,100 hogs on feed at any one time. Around 2,500 head will be marketed annually.

At weaning, the pigs go into a building divided into four growing pens. They stay there until they weigh 75 lbs., then they are transferred to a large 108 by 48-foot building separated into 12, 16, and 20-foot fattening pens. The hogs progress through these pens as they reach 125 pounds, 175 pounds, and up to market weight.

The reason feed with Hygromix helps the Lovins top out more than twice as many head at each marketing is understandable. Day by day, Hygromix kills the young, immature roundworms, nodular worms, and whipworms *as they enter* the intestines . . . before they can become established and rob the pig of food or blood . . . before they can produce eggs to contaminate hog-pens and lots. This new concept of worm control fits the Lovins' sanitation-conscious methods.

After farrowing, gilts and their litters graduate from a 25-sow farrowing unit to individual houses on pasture. This is during the warmer months. In the winter, they go to individual houses and pens on concrete.

These hogs are on the last leg of their quick journey to market (see diagram on opposite page). Lovins' hogs have constantly topped the Chicago market all year. It's easy to understand why continuous automatic in-feed Hygromix worm control appeals to Mr. and Mrs. Lovins.

From the time the pigs are about 4 weeks of age, until they hit 125 pounds, they are kept on Hygromix feeds. This gives Mr. Lovins and Mr. O'Neil the kind of continuous worm control they need during the critical growing period to help their assembly line operate at top efficiency.

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Maryland Conference Focuses Attention on Recent Findings in Poultry, Animal Feeding

WASHINGTON—The attention of nutritionists and feed men was focused on several new developments in poultry, dairy and livestock nutrition as a large crowd gathered this week for the 1959 University of Maryland Nutrition Conference for Feed Manufacturers.

The conference, held March 19-20 at the Shoreham Hotel in Washington, brought out a number of new findings in Maryland research and provided an up-to-date picture of other continuing studies at Maryland. At the same time, guest speakers from several other colleges joined the Maryland scientists in reviewing and pointing out various important aspects of poultry and livestock feeding and research.

Among the things brought out by Maryland and guest speakers were these:

- There has been further research on the possibilities of separate rearing and feeding of male and female broilers for more economical production.
- Maryland researchers are pointing out results with simplified corn-soybean meal rations and improvement of protein efficiency in broiler feeding.
- Heat-treated unextracted soybeans have been used as a replacement for fat and soybean meal in broiler rations.
- Further information has been developed on amino acids, certain minerals (including zinc and potassium), unidentified factors, antibiotics and vitamins in turkey and chicken nutrition.
- Research observations indicate the laying hen performs well over a wide range of energy-protein ratios.
- Maryland dairy scientists have shown how a diet of finely ground pelleted hay plus heated corn is very effective in decreasing production of butterfat.
- Various feed additives have not yet shown much promise in dairy rations.
- More knowledge is being developed on action in the rumen.
- Amino acid needs at one protein level will not satisfy the requirement at all protein levels in swine nutrition.
- Many problems remain to be solved before hormone administration can be a routine practice in swine feeding.

BROILER NUTRITION — Several aspects of broiler nutrition were covered in reports on Maryland research by Dr. G. F. Combs. He outlined results of floor pen trials, and he also discussed some battery studies.

Fat Level: Results of nine practical broiler trials involving various levels of added fat were summarized. These included both mash and pelleted feeds. Results, said Dr. Combs, show clearly that levels as high as 10-15% may be used successfully in practical feeds. Addition of 10% fat significantly improved eight-week weights on the average in non-pelleted feeds but not in pelleted feeds. Conversions were improved in proportion to increased energy. Pelleting had little effect on growth rate or feed conversion when the ration contained 10% added fat. Pelleting did significantly improve growth rate, however, when only 2% fat was used.

Dr. Combs also told of studies with some purified-type rations of very high efficiency. Although there is a marked difference in conversion as fat level and nutrient potency are increased, there is much less difference in Calories required per pound of broiler. The ration containing 24% total fat showed the best utilization of energy.

Rearing of Sexes Separately: The very fast growth rate and nutrient utilization obtained with male broilers suggested that rearing male and female broilers together might involve over-fortifying rations (particularly in protein) in terms of requirements for the slower-growing females, said Dr. Combs. In practical ration formulation, he noted, an increase in protein level almost always results in reduced energy potency. It seemed probable that more economical production might be obtained if males and females were reared separately and fed rations formulated specifically for the two sexes based on differences in growth rate. Accordingly, in three trials males and females were reared separately. Starting rations with different C/P ratios were fed for either 4 or 6 weeks, after which correspondingly lower protein finishing feeds were used.

Average eight-week weights or feed conversions of females were not affected by changing to finisher rations as early as four weeks, while average weights of males were slightly reduced. Difference in feed conversion between males and females during the eight-week period was small. However, if the females had been carried to as heavy body weights as the males, an appreciable difference in feed conversion in favor of the males would have resulted.

Glycine Supplementation: Dr. Combs reported on trials in which the data failed to support the need

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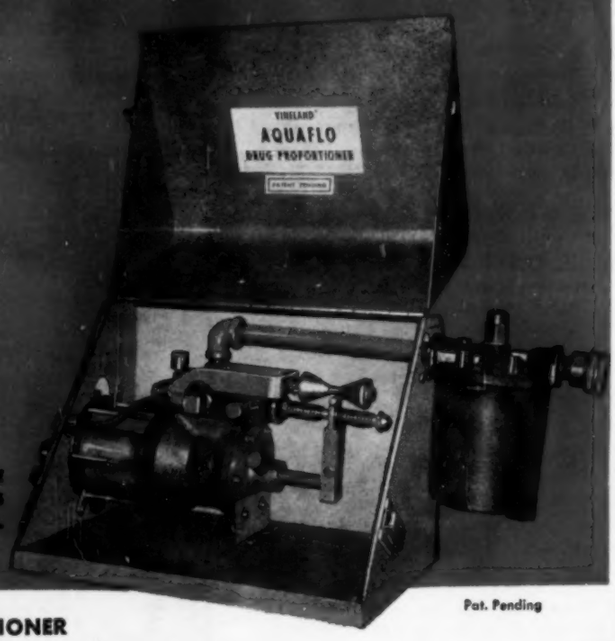

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for supplemental glycine in practical feeds.

Inorganic Sulfur, Choline and Methionine: In addition to cystine, both inorganic sulfur and choline have been shown to reduce the dietary need for methionine under certain conditions. Dr. Combs said inorganic sulfur has been added to practical feeds in floor-pen experiments, and it appeared that these feeds contained sufficient inorganic sulfur to prevent any unnecessary need of methionine for this purpose. He also reported on studies from which it appears that with rations containing about 10% added fat, addition of choline up to 700 mg. per pound can exert a sparing effect on the quantitative requirement for methionine.

Methionine Requirements: In view of the apparent effect of choline on the need for supplemental methionine, different methionine levels have been used in floor pen trials where ample choline was provided. The studies involved a one-feed program and the use of both starter and finisher feeds.

In one-feed program trials, it was indicated that if eight-week data are plotted with curves drawn for both body weight and feed efficiency as related to methionine-energy content, the minimal level for best results appears to be approximately 2.20-2.27 gm. methionine per therm of productive energy. This is in agreement with previous recommendations.

Dr. Combs said results with trials involving starter and finisher feeds are less clear. He noted discrepancies in responses to methionine in different series of trials. Sex and growth rate or differences in protein levels might account for the variations.

Improving Protein Efficiency: Dr. Combs said that in suggesting Calorie-protein ratios of 42-43:1 and 49-50:1 as guides in formulating practical broiler growing and finishing rations, it was pointed out that differences in quality of amino acid makeup of the protein (and other factors) would be expected to influence optimal C/P ratio.

The use of a protein mixture more efficient than another should permit use of a wider C/P ratio with equivalent results.

A mixture of soybean meal and corn protein in proper proportions provides a relatively efficient combination of amino acids, except for sulfur amino acids and perhaps glycine. High-fat rations generally contain somewhat more soybean protein in relation to corn protein, making such a protein mixture richer in lysine and tryptophane.

Several floor pen trials were designed to compare the performance of such protein mixtures, fortified with supplemental methionine (and in some cases, glycine), in rations differing in C/P ratio.

Dr. Combs outlined results in a number of trials with different C/P ratios and involving the use and nonuse of some animal protein ingredients.

He said that in recent broiler work involving methionine-supplemented C/P 48:1 corn-soybean meal rations containing 2.5% added fat during the first five weeks, followed by finishers with C/P ratios of 55:1 from 5 to 8 weeks, results have been equal to those with starting rations with C/P ratios of 42:1 and finishing rations with 49:1 C/P. Average weights of 3.4 lb. were obtained at eight weeks with White Rock males fed such "stretched protein" rations containing no supplemental source of "unidentified growth factors."

It appears clear, said Dr. Combs, that protein levels may be lowered in broiler starting rations to give C/P ratios as wide as 48:1, provided that the remaining protein mixture furnishes adequate amounts of the essential amino acids to support the energy content. The approach used in these tests is not different from that used by others attempting to improve efficiency of protein utilization.

Unidentified Growth Factors: Dr. Combs reported on some trials in which certain unidentified growth factor sources gave little or no response. All of the rations in a series of trials contained supplemental zinc and molybdenum.

Although there still appears to be something in fish products essential for rate of growth, he said, the magnitude of response appears to be relatively small in relation to that of several years ago with less adequate basal rations.

Heat-Treated Unextracted Soybeans: Since simplified corn-soybean broiler rations containing 7% added fat gave good results in field tests, preliminary attempts have been made to heat-treat unextracted soybeans as a replacement for soybean meal and added fat, said Dr. Combs. "Stretched protein" rations with minimal methionine supplementation have been used.

In a battery trial, a control ration containing 10% added corn oil and 36% soybean meal (50% protein) was modified to contain the equivalent of 49.85 lb. of heated unextracted soybeans in place of all the soybean meal and 8.15% corn oil. The beans were processed in both ground and unground form, with treatments involving 15 lb. pressure (121° C.) for 5 and 25 minutes. Processed samples showed no urease activity and little, if any, browning reaction as measured by the colorimetric procedure. The processed soybean feeds were used without subsequent drying and contained 17½% moisture. Processed ground beans were better than processed whole beans. Raw soybeans supported only half the growth rate, while the ground beans processed at 15 lb. pressure for 5 minutes gave 93.5% the rate of gain as compared with the controls.

On a volume basis, the control feeds contained 29% more nutrients per unit volume than the processed ground soybean feed, due to difference in fiber and moisture. Also, there

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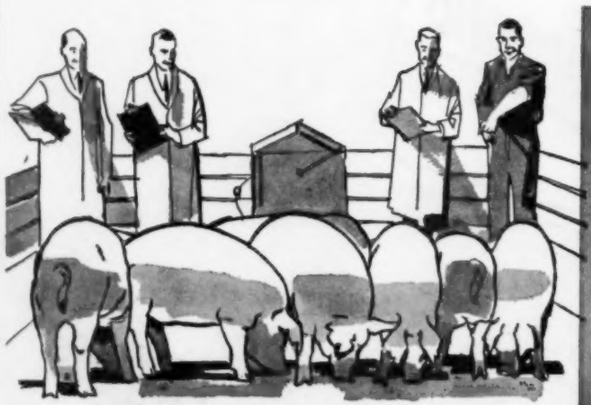

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*Jordan, C. E., Beeson, W. M., and J. H. Conrad, Purdue University Agr'l Exp. Station Progress Report, August 22, 1958.

*5 Gms. Chlortetracycline, 7.5 Gms. zinc bacitracin, 2.5 Gms. penicillin and 5 Gms. oxytetracycline.

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was considerable difference in the texture of the treated vs. control feeds. Accordingly, the control and treated soybean-containing feeds were each fed to chicks on a controlled nutrient basis. When the nutrient intake was the same, there was no difference in rate of gain.

Vitamin A Supplements: Dr. Combs also reported on a study of several vitamin A supplements for chicks. He said results failed to show any appreciable difference among the commercial stabilized dry vitamin A products and the standard based on liver storage data.

Other Studies: In one broiler trial, a tranquilizer (tetrahydozoline) was added at level of 50 gm. per ton. No improvement in growth rate or feed conversion was obtained. In a study with poults from 8 to 14 weeks, this tranquilizer at a level of 37.5 gm. per ton showed no differences in growth rate, feed conversion or excitability.

In preliminary trials with broilers reared at controlled temperatures from 50 to 90° F., feed efficiency and growth from 5 to 8 weeks were considerably poorer at 90° and 50° than at 75°. Despite the reduced growth, feed consumption of ad libitum fed birds in the cold was 7% greater. A temperature of 60° did not adversely affect growth or feed conversion.

EGGS, ENERGY AND EFFICIENCY—Until a few years ago, the level of energy in laying diets was fixed by custom and available feedstuffs at about 800 calories per pound, and a protein requirement of 15% was generally accepted. Dr. H. R. Bird of the University of Wisconsin said the most important factor in changing this situation was the introduction of animal fats in laying diets. Use of fats made it possible to raise energy levels materially and thus to increase efficiency of feed conversion.

In Wisconsin studies supplemental fat brought the usual improvement in feed conversion and did not affect production rate. In confirmation of some previous reports, White Leghorn hens fed 10% or more of fat deposited large amounts of fat in the viscera. However, there was no clear-cut evidence that fatness was detrimental to health or production. Feather picking was a problem in hens fed 10% or more of fat, and it was not corrected by raising the protein. Growing pullets fed high-fat diets ate molted feathers avidly, but feather picking was not a serious problem.

It seems likely, said Dr. Bird, that feather eating and feather picking are manifestations of dietary imbalance even though an attempt to correct feather picking by varying the energy-protein ratio was unsuccessful.

"Our observations," he said, "suggest that the laying hen performs equally well over a wide range of energy-protein ratios. More information is needed on optimum energy-protein ratios, but this optimum is likely to be affected more by ingredient prices than by the physiological needs of the hen."

LAYING HEN NUTRITION — A paper by D. F. Middendorf and Dr. N. V. Helbacka told of Maryland studies on laying hen nutrition—including protein, minerals, egg production and egg quality.

In a 1957-58 hen experiment, C/P ratios of 55:1 to 66:1 did not affect egg production, egg weight or body weight gain, but the higher energy diets did improve feed efficiency. The only test criteria affected by the addition of 10% fat was egg size and body weight gain; eggs from hens fed 10% of either tallow or corn oil in the diet were found to be heavier than eggs from hens on rations which had no added fat. Corn oil had a greater effect in increasing egg weight than tallow, but the latter was more effective in stimulating body weight gain.

In 1958-59 studies, diets with C/P ratios of 79 and 94 have resulted in decreased egg production, body weight gain and feed efficiency as compared to a diet containing a C/P ratio of 64. (Protein levels were 15.3, 12.7 and 10.9%, for the diets with C/P ratios of 64:1, 79:1 and 94:1, respectively.) However, eggs from hens maintained on the low protein-wide C/P ratio had higher Haugh units than eggs on the higher protein level and narrower ratios.

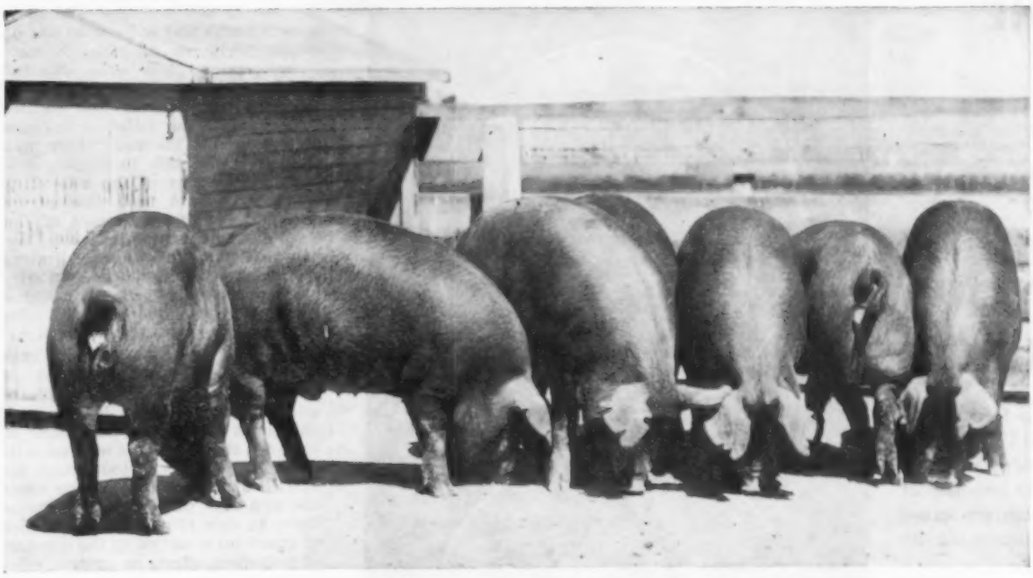
When NH_4Cl is added to the feed, there is a marked rise in Haugh units with a concurrent shell thinning. This occurs at both high ambient temperatures and at normal temperatures. This method cannot be used in practical rations because it makes egg shells thin.

Also studied in this experiment were the addition of .15% Norwegian kelp ash (ash equivalent of 1% kelp); effect of lighting (half of the hens were kept on a constant 13-hour light day, while others were started on the same length of light day, with an increase of a half hour every two weeks); and the use of malathion to control external parasites.

Supplementation of the diets with kelp was without effect; the kelp ash was used as a possible source of unsuspected trace minerals which might increase shell thickness. Length of light day was without effect to 12 weeks. But if egg production is considered for the first three six-week periods, production for birds receiving increasing light is 1.4, 3.4 and 4.5% higher than for the controls. Louse control had no measurable effect. Hens in the malathion-treated pens were free from external parasites, so the treatment was effective.

STUDIES WITH CHICKS AND POULTS—Reports on Maryland research on zinc, unidentified factors and perosis were given by Dr. R. D. Creek.

Dr. Creek described a number of studies on zinc supplementation of turkey diets. In one study, there was a clear-cut response to fish solubles, brewers yeast and zinc supplementation. It also was evident that a portion of the UGF response in the poult may be due to zinc. Dr. Creek outlined other studies, too, and he said results indicate the definite need for zinc supplementation in practical turkey diets. In view of the high level re-



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In the 1958 comparisons, only Arsanilic Acid produced weight gains for less than 9¢ per pound. It increased average daily weight gains 12.1% over the control group which was fed a balanced ration. Of the additives fed, Arsanilic Acid resulted in the most efficient gains. It improved feed efficiency 6.25% compared to 2.7% for the best combination of antibiotics and 1.1% for another arsenical.

Effective in Supplements and Concentrates: Arsanilic Acid in your supplements, concentrates or complete feeds will give them the "punch" they need when it counts most. It can give such outstanding results because of its *low-cost and proved effectiveness.* Hogs make better use of their feed . . . make thriftier gains all the way to market time.

For more satisfied customers and better resales . . . make sure your supplements and concentrates are fortified with safe, effective Arsanilic Acid.

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with the PAMCO BACK SAVER

Attach this inexpensive AUGER UNIT to a grain box and you can handle any feed in bulk!

- Ideal for hoist trucks
- Complete hydraulic operation
- Can load as easily as unload
- Will handle bulk feed grain or pellets
- Minimum breakage of pellets

Conversion units can be mounted on your present grain box.

For Complete Information Write:

PRODUCTIVE ACRES MFG. CO.

406 BROADWAY KEOTA, IOWA PHONE: ME 63071

OTHER INSTALLATION POINTS: Englewood, Colo.; East Grand Forks, Minn.; Mooresville, Indiana; Portland, Oregon; Jefferson, Georgia; Tulsa, Oklahoma

quired for toxicity and the cheap cost, supplementation with 35 to 50 p.p.m. seems advisable.

An experiment was conducted to determine optimum Calorie-protein ratios for caponettes with and without added fat. Results indicated that without added fat, the C/P ratio should not be wider than 63:1. Where 10% corn oil was added, optimum results were obtained with a ratio of 72:1.

Dr. Creek noted that previous studies have indicated a number of nutrients may be involved in preventing perosis in chicks. He reviewed previous work and described some Maryland research, including the use of formate as a dietary additive which might spare the need for folacin, choline and methionine.

ZINC, POTASSIUM AND UNIDENTIFIED GROWTH FACTOR EFFECTS IN PURIFIED CHICKEN AND TURKEY DIETS—Dr. W. C. Supplee presented results of a variety of Maryland experiments on the requirements of chickens and turkeys for potassium, zinc and unidentified factors.

Potassium Requirement of Poults: Results of three tests indicate that a level of less than .6% potassium cannot be relied upon to support maximum growth. It is not likely potassium deficiency will be of concern in formulating practical turkey feeds with ingredients now available.

Potassium Requirement of Chicks: Data indicate that with the diet used, the potassium requirement is .35% for both males and females.

Basal Diet Composition and Response of Chicks to Unidentified Growth Factor and Antibiotic Supplementation: Grounds exist for suspecting that intestinal microflora activity is an uncontrollable variable of significance in UGF work. Dr. Supplee reported on tests to determine whether changes in the character of the basal diet might induce changes in flora activity which would be reflected in modified responses to UGF supplementation. The various basal diets were supplemented with a mixture of 3% menhaden fish solubles and 4% brewers dried yeast and with the ash of this mixture. The diets were fed with and without 50 mg. of oleandomycin per kilogram. Numerically greater gains were obtained with supplement mixture diets in all eight comparisons. The supplement mixture ash failed to improve growth in any instance. There was nothing in the data to suggest that any modifications of the microflora which may have been induced by different energy components of the basal diets altered the responses. The only aspect of the results indicating specific growth differences attributable to microflora effects was a slightly greater antibiotic response with sucrose diets.

Effect of Oleandomycin and Diet Variation on Intestinal Weight of Chicks: Considerable data indicate intestines of chicks fed diets without antibiotics are heavier than those of birds fed the same diets with an antibiotic added. Several studies have indicated that absorption is more efficient with light than with heavy intestines. In view of possible significance of intestinal condition to the question of microflora effects on growth, comparisons were made of intestinal weights of chicks fed several types of diets with and without oleandomycin. There was no response to oleandomycin in this test, even with the sucrose diets. Despite this, birds fed the

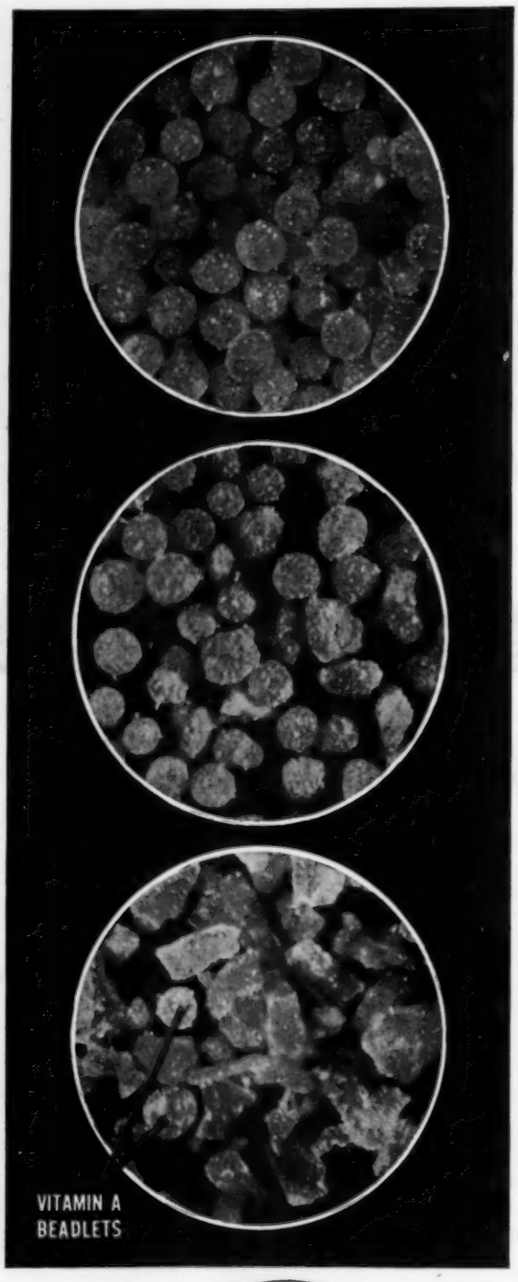
(Turn to Page 60)

WHAT IS THE *active particle* CONTENT OF YOUR VITAMIN A SOURCE?

Many vitamin A products offered to feed manufacturers at a potency level of 30,000 U.S.P. units per gram or less are simply diluted forms of much higher potency concentrates. Usually beadlets of 250,000 to 500,000 U.S.P. units per gram are mixed with a suitable quantity of filler to obtain the desired potency.

Micratized Vitamin A, 30,000 U.S.P. units per gram, is dramatically different—and in a way that is of key importance to you and your customers. Instead of preparing a high-potency beadlet and then diluting it down with filler, Nopco follows the more costly but nutritionally sounder procedure of building to potency, literally *from the ground up.* The only inactive diluent present is included to guarantee the free-flowing properties of the product. The result is a concentrate in which virtually *every particle is vitamin-A-active.* You thus have assurance of complete dispersion in your feeds and uniform nutrition for the animal.

Be Sure to Specify
Micratized® Vitamin A
Uniformly active particles for uniform dispersion, uniform nutrition, uniform stability, uniform results



THREE PHOTOMICROGRAPHS OF VITAMIN A PRODUCTS

Top: Micratized Vitamin A, Nopcay® Type III. Spherical beadlets are A-active particles. Note that *all* particles in this product are A-active.

Center: Micratized Vitamin A, Nopcay Type V. Note that almost all particles are A-active. Occasional non-spherical particles are diluent, and included to assure free-flowing properties of product.

Bottom: A typical competitive product. Only two spherical A-active beadlets surrounded by non-active filler.

NOPCO®

NOPCO CHEMICAL COMPANY

General Offices: 60 Park Place, Newark N.J.
Plants: Harrison, N.J. • Peoria, Ill. • Richmond, Calif.

Basic producers of Micratized Vitamins A and D, niacin, calcium pantothenate, choline chloride, and other products

Universal
BUCKET ELEVATORS

. . . Choice of the Wise Buyer

WHO COMPARES

Universal Bucket Elevators Offer:

- √ Better performance — A more compact unit, with cleaner, smoother operation through advanced design.
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Universal Bucket Elevators are available for capacities of 50 to 3,000 bushels per hour, and may be obtained for any exact height

Send For Free Literature

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BOX 101, CEDAR FALLS, IOWA

This 100 pound container of

PREMIX

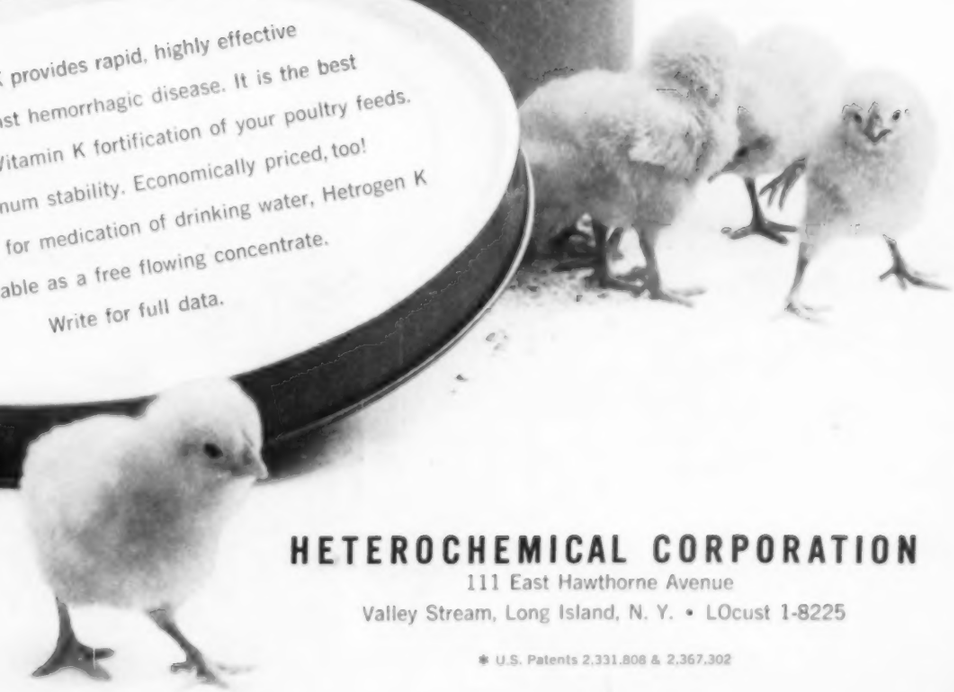
hetrogen K**

Menadione Sodium Bisulfite

will provide positive vitamin K fortification to 400 tons of your poultry feed for only 4½c per ton

Hetrogen K provides rapid, highly effective protection against hemorrhagic disease. It is the best buy for convenient Vitamin K fortification of your poultry feeds. Assured maximum stability. Economically priced, too! Also recommended for medication of drinking water, Hetrogen K is available as a free flowing concentrate.

Write for full data.



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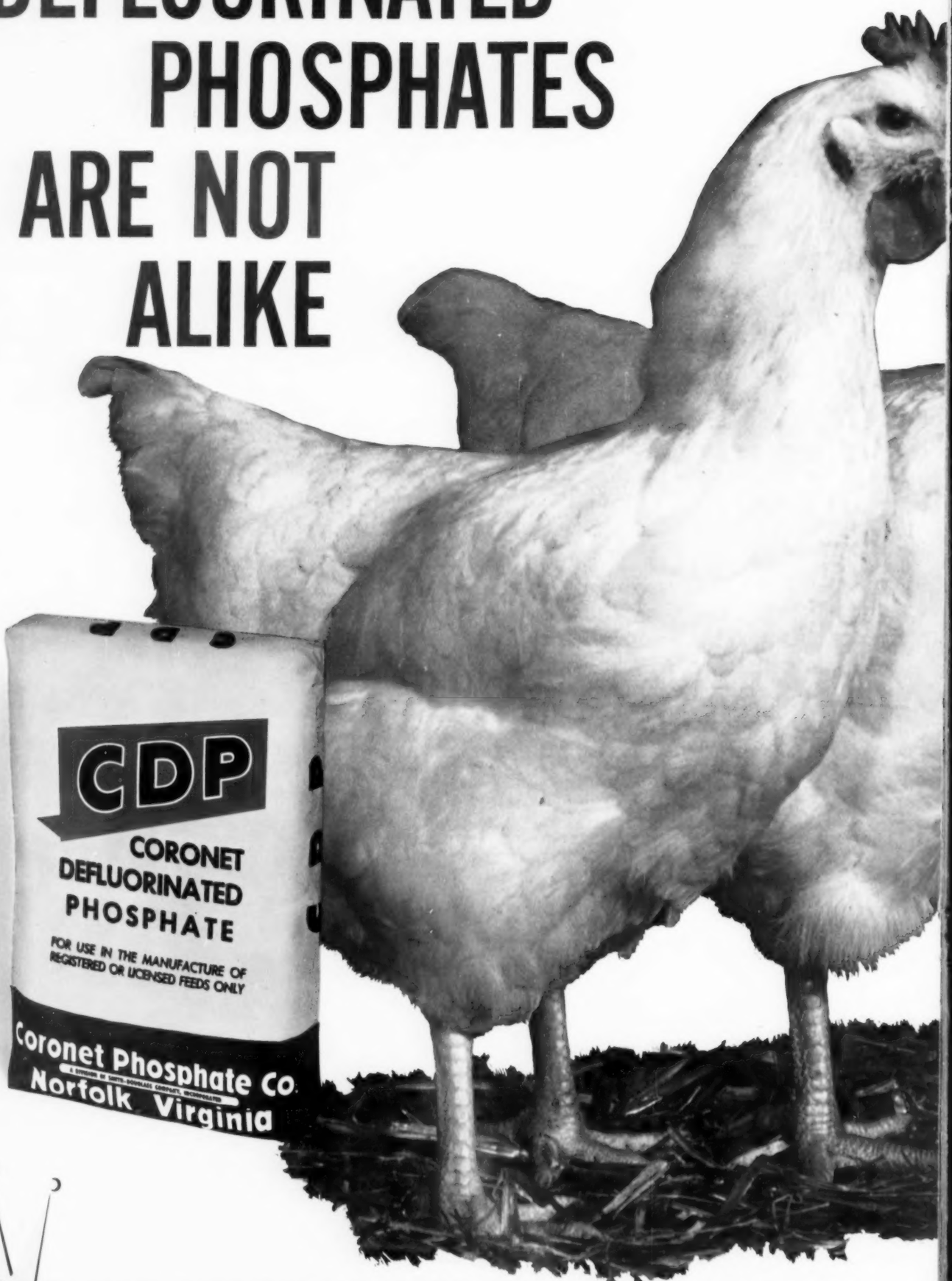
* U.S. Patents 2,331,808 & 2,367,302

Basic producers of Micratized Vitamins A and D, niacin, calcium pantothenate, choline chloride, and other products

BOX 161, CEDAR FALLS, IOWA

ALL DEFLUORINATED PHOSPHATES ARE NOT ALIKE



50 CORONET...50 YEARS OF RESEARCH...QUALITY CONTROL...SERVICE

COMPARISON TESTS

CONCLUSIVELY PROVE CDP BEST

High phosphorus availability results with CORONET DEFLUORINATED PHOSPHATE have been confirmed in a variety of feeding tests conducted by state agricultural experiment stations and independent research laboratories not affiliated with Coronet.

Chemically, CDP is an ortho phosphate, free of pyro and meta phosphates. It is predominately in the form of alpha tricalcium phosphate; non-hygroscopic and non-acidic, but readily soluble in dilute acid solutions.

Nutritionally, CDP is a tried and tested source of phosphorus, palatable to livestock even in free-choice feeding. ALL of the phosphorus in CDP has demonstrated total biological availability to both plant (rumen bacterial micro-organisms) and animal life. Nutritional evidence establishing CDP as the BEST defluorinated phosphate is contained in the following literature:

1. "The Availability of Phosphorus from Different Sources for Poults Fed Purified Diets." Poultry Science, Volume XXXIII, Number 5, September, 1954.
2. "A Comparison of the Availability, to the Young Growing Chicken, of the Phosphorus in Defluorinated Phosphate and Analytical Reagent Grade Dicalcium Phosphate," by Lime Crest Research Laboratory, October, 1954.
3. "The Availability of Phosphorus from Different Sources for Poults Fed Practical-Type Diets." Poultry Science, Volume XXXIV, Number 5, September, 1955.
4. "Phosphorus Availabilities as Determined by New Feeding Experiment," by Lime Crest Research Laboratory, November, 1955.
5. "Phosphorus Availability Assays by the University of Illinois Method," (as presented by Dr. H. H. Scott) by the Laboratory of Vitamin Technology, Inc., September, 1956.

CORONET Defluorinated Phosphate is a direct result of creative development, quality production and CONTINUING RESEARCH. No phosphorus feed products are subjected to more meticulous quality control than those produced by CORONET.

Guaranteed Uniform Analysis

Phosphorus	Calcium	Fluorine
17.0% min.	34.0% min. 36.0% max.	0.17% max.

Solubility Comparison of CDP With Other Defluorinated Phosphates

PRODUCT	Solubility in 0.4% HCl	Solubility in 2% citric acid	Solubility in neutral ammonium citrate	Average total solubility
CDP	100.00%	87.14%	86.16%	91.10%
Product A	96.48%	51.19%	19.41%	55.69%
Product B	82.79%	38.61%	9.08%	43.49%

Chemical solubilities determined by TERMINAL TESTING LABORATORIES, INC., Los Angeles 33, Cal.

Let us figure the cost of CDP delivered to your plant

CDP **CORONET PHOSPHATE COMPANY**
Norfolk 1, Virginia

A Division of Smith-Douglass Company, Incorporated

more satisfACTION!

. . . with the world's finest cane blackstrap feeding molasses. Shipped promptly by tank car or tank truck from nearby terminals. Write—wire—or phone now for quotations!

NATIONAL MOLASSES COMPANY
Executive Offices: ORELAND, PA. Phone: Livingston 8-5900 (Philadelphia)

antibiotic had lower intestine weights. Various carbohydrates, as well as distillers solubles and its ash, had little or no effect on intestinal weight. The fact that a growth response is not obtained with an antibiotic does not necessarily indicate the absorption potential of the gut wall is not increased.

Response of Poults to UGF and Antibiotic Supplementation: Dr. Supplee discussed further tests during the past year to characterize somewhat better responses to supplementation to be expected with an improved basal diet reported previously. He noted that the data presented have contributed nothing not previously known regarding UGF effects. Responses in chick tests, he said, continue to be so small as to indicate that the basal ration must contain considerable quantities of any unidentified nutrients necessary for rapid growth or that any such nutrients must be elaborated in considerable quantities by the intestinal microflora induced by the environment.

Requirement of Poults for Zinc: It was noted that a year ago, it had been reported at the Maryland conference that poults require relatively large quantities of zinc for normal growth and to promote normal hock and feather development. Further work was described this year. A 52 ppm level of zinc appeared to be adequate for growth and to reduce hock and feather abnormalities to a minimum. Dr. Supplee also cited results indicating that zinc may not complete the considerable list of nutrients already reported to be specifically required for normal hock development.

Requirement for Niacin and Vitamin E in the Presence of Adequate Zinc: Reexamined was the effect of niacin and vitamin E deficiencies in poults, particularly as related to hock development, using diets containing fully adequate levels of zinc.

Test results confirmed previous work showing that niacin is specifically required for hock development, and it is clear that a high zinc level does not eliminate the need for niacin. Further work will be required in connection with vitamin E.

Effect of Low Dietary Zinc on Shell Thickness, Embryonic Development and Hatchability: In a preliminary trial described last year, eggs from hens fed a low-zinc diet were found to have slightly thinner shells and considerably lowered hatchability as compared to eggs from hens fed the same diet supplemented with zinc. The work is being repeated and data tend to confirm and extend the preliminary observations.

CONTROL OF COCCIDIOSIS — MAN OR MEDICINE—"Too often it is forgotten that coccidiosis is a filth-born disease," said Dr. M. S. Cover of the University of Delaware. "The wide use of drugs and flattering use of words regarding them has led many poultrymen to believe that the use of a coccidiostatic drug is the only means necessary to combat this disease. Certain chemicals will reduce the possibility of a clinical infection, but such preventive treatment is only a supportive measure to the role of man."

Dr. Cover said several facts point out this feature:

1. Coccidiosis can only occur by the bird ingesting the infective organism. Thus the environment, litter in particular, plays the most important role.

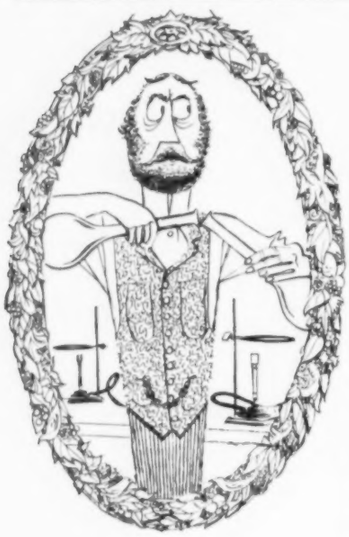
2. Coccidia can multiply only by re-entrance into a new host. Thus, passage of the agent through several birds is necessary to maintain the number of coccidia.

3. Coccidia require a certain temperature and moisture content of their environment when outside the body of the chicken to become infective for the next host.

4. It is necessary that a certain number of coccidia be ingested to produce clinical signs of the disease.

If man will control the environ-

(Turn to MARYLAND, page 65)

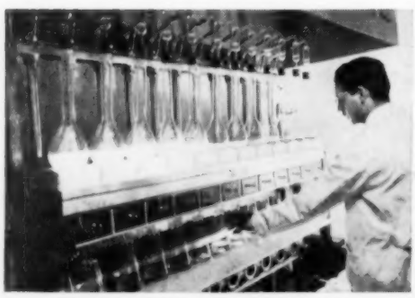


How dated is your feed laboratory?

If your feed laboratory is poorly equipped and out of date, it may be . . . and very probably is . . . costing you many, many dollars every month that might just as well be profit. Yet modernization often can be accomplished at surprisingly low cost, particularly when the tremendous advantages of a completely efficient laboratory are considered.

Labconco is the world's leading manufacturer of Kjeldahl apparatus for protein determination, heart of any feed laboratory. We also manufacture virtually all of the related apparatus and furniture you need for a completely modern and efficient feed laboratory. Also, we've had more than 30 years experience in planning feed laboratories throughout the U. S. and abroad.

Why not drop us a line today. Just give us a general idea of your present set-up and the daily demands on your laboratory. We'll be happy to submit plans and cost estimates. No obligation on your part . . . just write



Labconco is the world's largest manufacturer of Kjeldahl apparatus for protein determination, heart of any feed laboratory, also manufactures a complete line of related apparatus and furniture for the feed laboratory.

LABORATORY CONSTRUCTION CO.
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We are linked together to give you better service in all commodities. Our nationwide coverage, with private leased wires connecting all offices, assures prompt, efficient brokerage service. Try us on your next transaction.

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Come Aboard Praternautics

and learn how Planning Feed Mills TODAY
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CAN BOOST PROFIT MOMENTUM

HERE IS YOUR FLIGHT CREW

You'll be in good hands with PRATER SPACE-N-TIME Sales Engineers—everyone "checked out" on many installations—supplying mill equipment featuring maximum EFFICIENCY in a minimum of SPACE and handling maximum PRODUCTION in a minimum of TIME.

Join the ranks of other Custom Feed Millers who are taking advantage of the PRATERNAUTICS Integrated FEED MILL SYSTEM to boost their business into THE PROFIT ORBIT.

SEE PRATER SPACE-N-TIME ENGINEERS AT THE NATIONAL FEED SHOW BOOTHS 112-113-132-133

PRATER PULVERIZER COMPANY
1537 South 55th Court • Chicago 50, Illinois

BLUE STREAK Prater

Cash in

PILOT BRAND OYSTER SHELL

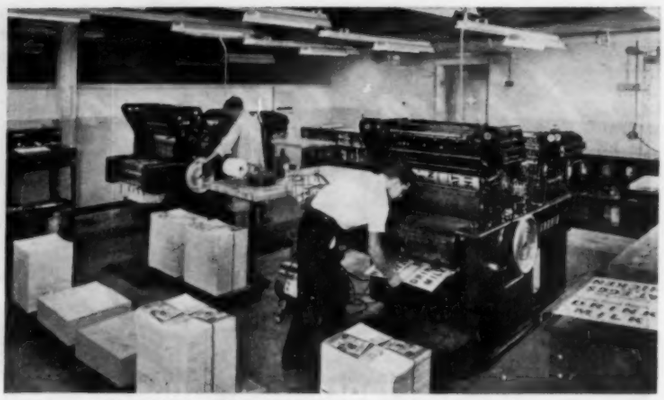
You can always count on fast turnovers and good profits when you stock and display PILOT BRAND Oyster Shell. That's because poultrymen everywhere have learned that hens produce more eggs with stronger shells when PILOT BRAND Oyster Shell is in the hoppers.

This year 'round, nation-wide demand—constantly stimulated by advertising in leading farm and poultry journals and on 70 radio stations—makes your selling job easier. It pays to push PILOT BRAND—the largest selling eggshell material in the world.

Order from your distributor or write to us

Oyster Shell Products Company
Mobile, Alabama

PILOT BRAND OYSTER SHELL FOR POULTRY



WIRTHMORE PRINTING DEPARTMENT—Wirthmore Feeds, Inc., maintains its own printing department in the company's new home office and research center in Waltham, Mass. A wide variety of informative literature is produced on the offset presses shown here and is distributed to poultrymen, dairymen and livestock raisers in the Northeast. The printing department turned out more than 3 million folders, leaflets, charts, brochures, record forms and other pieces during the past year.

Feed Company Operates Its Own Printing Department

Wirthmore's Graphic Arts Facilities Compare Favorably with Many "Outside" Shops.

A commercial printer called on Wirthmore Feeds, Inc., recently to solicit business—and left empty-handed and envious. Instead of an order, he was given a tour through the firm's own graphic arts department.

E. S. Moore

In the firm's modern, new office and laboratory building in Waltham, Mass., he found a modern, well-equipped photographic laboratory, complete copy camera and offset platemaking facilities and a printing establishment said to be equal to many of the commercial printing shops found in downtown Boston.

"If I had a set-up like that in my own plant," he said, "I could triple my business."

During the past year the department turned out nearly 3 million Wirthmore folders, leaflets, record forms, feeding charts and brochures for distribution by field personnel to poultrymen, dairymen and livestock producers throughout the company's 17-state area of distribution.

The bustling pressroom has two modern 17 by 22-in. offset lithographic presses and a multilith machine. A bindery is equipped to handle collating and gathering operations, folding, stapling and packing. The mail room is equipped with the latest high speed automatic addressing machines and equipment for filing mail plates, and the adjacent shipping room is similarly outfitted with top modern equipment. The operation is staffed with expert pressmen and craftsmen.

Grew Like Topsy

The visiting printer's surprise and envy at the scope of the operation is understood by E. S. Moore, advertising manager, who is in charge of the printing plant as part of his area of responsibility. He is certain that few feed firms have become as involved as Wirthmore in printing and graphic arts.

"We didn't really ever plan to reach this stage of development," he said. "Like Topsy, it just growed. But it has to justify itself all along the way."

"Even now, we run frequent cost studies to make sure that we're still on firm ground. In fact, every printing job is analyzed, and whenever we feel that it would save money to have the job done outside, we let it go to a commercial printer. We are a substantial buyer of printing, despite the big volume of work constantly going through our own shop."

Back in the early days, not long after the turn of the century, the company purchased a multigraph machine—a cumbersome device with a big cylinder on which hand-set metal type was assembled. At first this was used for running off price sheets, and little else. Then an assistant was put to work running off sales letters. Later, a mimeograph machine was obtained because of its advantage in faster preparation of material.

When the advertising and sales functions were separated in connection with the department's move to St. Albans, Vt., the direct mail activities were greatly expanded, and individual typing of envelopes became burdensome. So, in the early 1920's, addressing machines were installed. By 1930 this had grown into a full scale mailing plate system.

Printing Needs Grow

"Our company magazine began as a dairy service newsletter," continued Mr. Moore. "It was called Milk Spatters, and was run off on a mimeo-

Hoffman

for vitamins

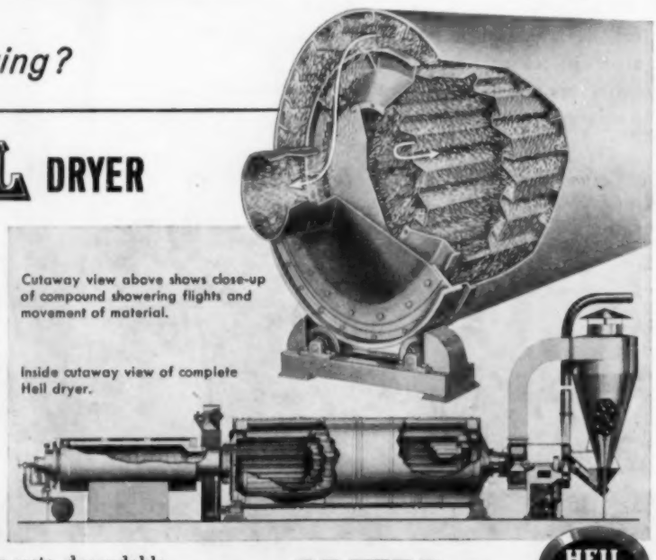
Hoffman-Taff Inc.
SPRINGFIELD, MISSOURI

Want fast, uniform drying?

Depend on a HEIL DRYER

Just seconds . . . that's all it takes for a Heil dryer to flash-dry material to a uniform moisture content. A stream of hot air carries the material through the three-pass drum. Small particles move through quickly . . . heavier particles with more moisture move more slowly. Result: regardless of particle size, each is dried to the same low, uniform moisture content. Compound showering flights on each drum keep material moving evenly . . . eliminate surging.

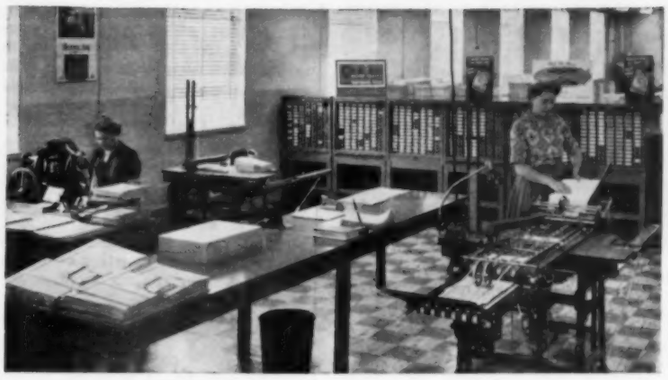
Add up the advantages—low operating costs, dependable operation, uniform quality control and high production—and you have plenty of reasons to investigate a Heil dryer for your plant. Write, wire or call for complete details.



Cutaway view above shows close-up of compound showering flights and movement of material.

Inside cutaway view of complete Heil dryer.

THE HEIL CO.
Manufacturers of the Arnold Dryer
3000 W. Montana St., Milwaukee 1, Wisconsin



DIRECT MAIL DEPARTMENT—Direct mailings of informational literature on the care and feeding of poultry, livestock and dairy animals are made regularly by the advertising department of Wirthmore Feeds, Inc., Waltham, Mass. Leaflets, booklets, bulletins and other printed material prepared in the company's printing department are sent to over 100,000 feeders throughout the 17-state area served by the firm.

graph. Throughout the 1930's, our need for all kinds of printing mounted rapidly. We had to have printed feeding directions, tags and labels, all sorts of mass communications for sales and dealers, form letters, and a growing variety of booklets, service manuals and promotion materials."

In May, 1936, he related, the advertising and direct mail groups moved to Malden, primarily to be near the home office and the big printing industry in Boston. In that same year, a multilith machine was acquired, then another, and eventually a copy camera and platemaking equipment.

"That's what really got us into the offset printing business," Bob Lewis, expeditor, also in charge of all mail work, pointed out. "We renamed Spatters and turned it into a house organ. It wasn't long after that when we got into color work. We developed special techniques for running four-color jobs on the multilith machines, and two and three-color work on the mimeograph. Even the manufacturers of those machines found it hard to believe. They kept arriving at the office with visitors in tow, asking if they could show these visitors some of the work that we were doing. I think we helped sell a lot of multilith and mimeograph machines in those days."

The first of the big presses was installed in 1941. A medium-size press was bought later and operated for awhile, then sold and replaced by another big 17 by 22-in. press in the interests of uniformity and flexibility. Intercompany forms and many special items used by the company are still run off in large quantities on the multilith.

Staffed with Experts

Tad Call, the company's full time commercial artist, working in conjunction with the cameraman, Jack Miller, developed a short-cut process for making the color separations for four-color plates, involving a special technique when painting his own watercolors and oils for the covers of various publications or for other purposes. He has lectured on "Art in Industry" before many civic and business groups as well as to his fellow artists in his home town of Rockport, Mass., an internationally famous art colony.

Several of the men in the advertising department are skilled writers and photographers, who take care of most of the company's varied assignments. Among these are Francis Earley, copy chief, who received his

BUILT TO LAST
Lemanco
INSIDE BULK FEED BINS
Four Door 7618-48-4D 4 Ton
Six Door 7618-48-6D 4 Ton
Four Door 6618-42 3 Ton
Cage House or Corner Installation 7424-42 2½ Ton
Over Automatic Feeder 7540-36G 3¼ Ton 7540-48G 4 Ton 7636-48G 5 Ton
Auger Feed 7540-36A 3¼ Ton 7540-48A 4 Ton 7636-48A 5 Ton
Economical per ton storage, plus convenience . . . that's the answer to the popularity of LEMANCO all-steel bins for poultry houses and other types of bulk feeding operations.
Bases—all welded 14 gauge steel; sides—16 gauge galvanized steel; legs—1¼" angles. Specially formed corners for extra reinforcement.
Make your investment pay over the long haul. Write today for further information.
Feed Barrow
Roof Door
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GADSDEN, ALABAMA
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Freshness and Steam Rolling Make the Difference in

Ace Brand Rolled Oats

There's no compromise with quality and appetite appeal when you use Ace Brand rolled oats in your formula feeds. And yet, Fruen's volume production with newly installed high capacity rollers keeps costs down so you can use the best and still maintain that profit margin.

Remember, too, Fruen's rolled oats are steam rolled. The peak of nutrition is locked in these uniformly large flakes by Fruen's exclusive steaming and oven drying process that partially precooks the groat, making for easy, quick digestion.

For a rolled oat product that's free from dusty, powdered groats, with a minimum of fines and freedom from hulls, try Fruen's Ace Brand. Contact your dealer or broker or write us for samples and prices.

Millers TO THE TRADE

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MINNEAPOLIS 5, MINNESOTA
Teletype: MP 477
Telephone: FRanklin 4-2142

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WRITE FOR DELIVERED PRICES
FARMERS FRIEND MINERAL CO.
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Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

VIRGINIA SPEAKERS—Shown are several of the speakers at the recent Virginia Feed-Nutrition Conference in Roanoke. Those in the first picture spoke during the beef section, and those in the second picture gave addresses during the dairy section. The speakers are (left to right): John A. Christian, North Carolina State College; Dr. R. W. Engel, Virginia Polytechnic Institute; Dr. J. P. Fontenot, VPI; Dr. C. K. Whitehair, Michigan State University; W. G. Ritchie, Petersburg, Va., presiding officer; Richard J. Werner, Milk Industry Foundation; Dr. W. A. Hardison, VPI; John C. Thompson, Ralston Purina Co.; Dr. H. N. Young, VPI, presiding officer, and Dr. W. E. Thomas, North Carolina State College.

photo training with an Eighth Air Force reconnaissance outfit during World War II, and Carl Miller, who doubles in brass as manager of the dealer cooperative service program and as a photographer.

They are backed by a fully-equipped photo laboratory and darkroom which can handle black-and-white or color processing. Between this section and the pressroom are located the copy camera and the photoengraving facilities for making lithographic offset printing plates. This is staffed by men who handle layout, film stripping, and the other arts of the offset lithographic print shop.

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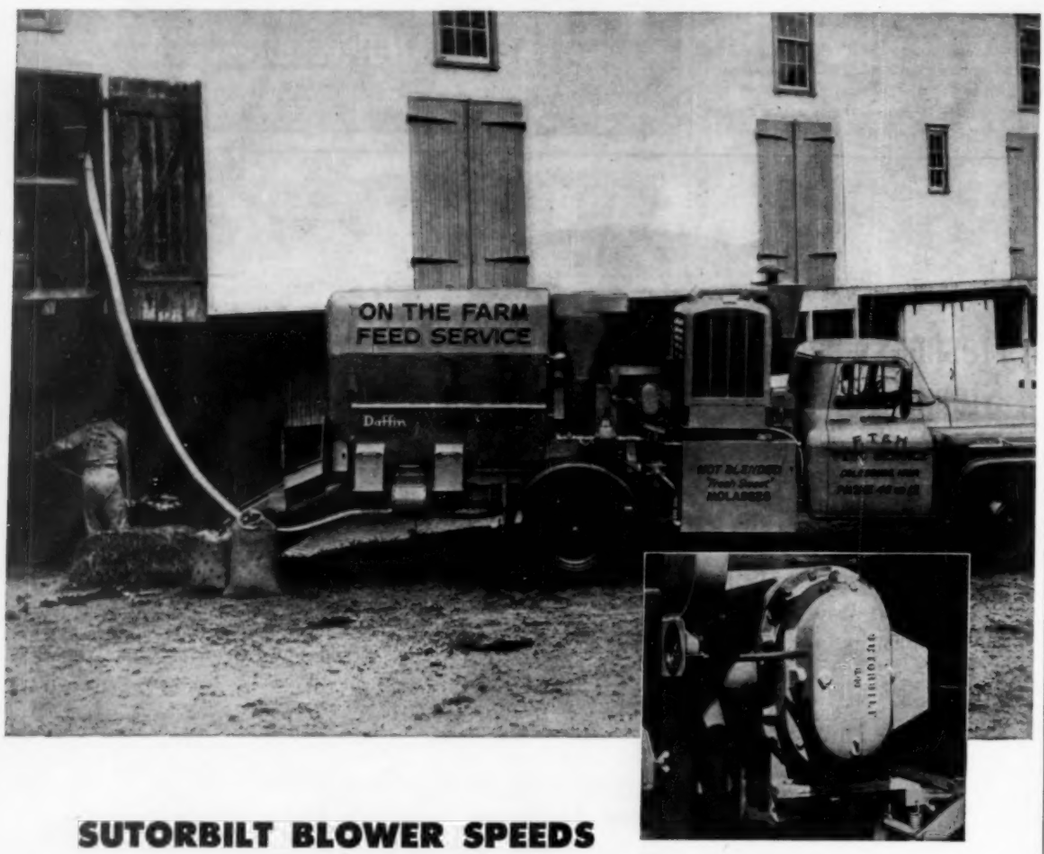
'Fescue Foot' Causing Trouble in Missouri

KANSAS CITY, MO. — A disease called "fescue foot" is causing serious cattle trouble in the Warrensburg area and scattered localities throughout Missouri, according to a bulletin from the Missouri Veterinary Medical Assn.

After grazing heavy growth fescue for a variable period, the cattle go lame, usually in the hind feet, which become swollen and tender. In extreme cases the entire foot may drop off. Even in mild cases there is a considerable setback in growth and weight gain.

Research at Colorado State College has indicated that fescue foot is caused by a special type of fungus different from common ergot or black smut. Fescue foot is often confused with germ-borne foot rot or ergot poisoning. In the latter disease, dry gangrene of the tail and ears as well as tissues above the hoof line are affected.

Veterinarians advise pulling cattle off of fescue if suspicious symptoms are noted, and to get a specific diagnosis and institute treatment as early as possible.



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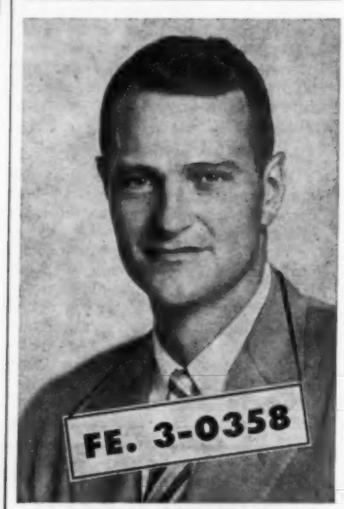

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(Continued from page 60)

ment and reduce the chances of initial infection as much as possible, medicine can more completely cope with coccidia which may remain, said Dr. Cover.

FEED EFFECT ON MILK FAT PRODUCTION AND GROWTH—W. L. Ensor of the Maryland dairy department reported on studies in which a diet of finely ground pelleted hay plus heated corn was very effective in decreasing production of butterfat as well as efficiently producing increased body weight.

Lactating cows were fed various combinations of finely ground pelleted hay with or without ground corn, heated corn, flaked corn or glucose to determine the effect on concentrations and proportions of volatile fatty acids (VFA) in the rumen and milk fat production. A rapid and marked decrease in milk fat was obtained by feeding finely ground and pelleted hay plus a small amount of corn. The decrease in milk fat was accompanied by a marked change in proportions of VFA.

It was noted that ground and pelleted hay alone resulted in no marked change in milk fat content or rumen VFA.

In contrast to ground corn, the addition of heated corn to a diet of alfalfa pellets produced a greater change in proportions of rumen VFA, with a more drastic decrease in milk fat test. Decreases with the heated corn were more than 50%.

The effect of feeding finely ground pelleted hay, flaked corn and linseed meal was studied with Holstein steers. Those receiving this diet gained .44 lb. more per day than the group receiving chopped hay, ground corn and linseed meal. Feed efficiency also was better.

SOME PHYSIOLOGICAL EFFECTS OF LARGE AMOUNTS OF CONCENTRATES IN THE RATION OF THE DAIRY COW—Many dairymen, it was noted by Dr. R. W. Hemken of Maryland, do not feed the amount of concentrates a cow requires during the early part of lactation because the increased feeding of concentrates will cause more udder edema. Also, concentrate is often withdrawn during the week or two previous to parturition even though dry cows may be in poor condition.

Reviewing other studies, plus Maryland work, Dr. Hemken said feeding trials have failed to show any effect of concentrate level on udder edema. However, he added, some recent Illinois work has shown reduced severity of edema in several cows by injection of blood serum albumin. It was suggested that a drop in blood serum protein is responsible for appearance of udder edema at calving time.

At present, Dr. Hemken went on, there is not any good evidence that feeding levels or different feeds actually influence the severity of udder edema. Therefore, cows should be fed to meet their requirements before and after calving rather than withholding concentrates to relieve the edematous condition of the udder.

ADDITIVES IN DAIRY RATIONS—Dr. N. L. Jacobson of Iowa State College discussed a few of the additives in relation to dairy rations and also commented on certain nutritional and economical factors. He emphasized that basic nutrient needs should be considered before attention to additives is justified. Here are some of his comments:

Increased weight gain alone is hardly sufficient justification for inclusion of an additive in the ration of the young calf. Even if gains are increased for a few weeks or months, the weight advantage probably will disappear after removal of the antibiotic from the ration. On the other hand, if the additive improves vigor, stimulates dry feed consumption and thus permits earlier removal of liquid feeds, increases feed utilization or permits use of ingredients otherwise not satisfactory, then use of the additive may be justified. For example, addition of an appropriate antibiotic to a milk replacer or calf starter stimulates appetite and the calf is likely to begin eating more dry feed earlier.

During the period from 4 months to shortly before calving, use of additives usually is not justified.

In milk cows, ketosis can be reduced by proper feeding practices, and control can be augmented by use of sodium propionate and certain lactates. Feeding of high levels of vitamin D just prior to parturition aids in control of milk fever.

Studies on the effect of antibiotic feeding on milk production have been rather inconclusive. Antibiotics to control certain infections must be appraised not only on the basis of effectiveness but also on the basis of economy and relationship of prolonged feeding to subsequent therapeutic use. For control of pasture bloat, it appears penicillin, erythromycin and perhaps others are reasonably effective for short periods. However, the effect in most cases is transient, and there are indications the decreased effectiveness persists for several weeks after antibiotic feeding is discontinued.

The effect of oils in reducing bloat does not decrease during repeated administration, but the effect after any one feeding is transient. Neither antibiotics nor oils are entirely satisfactory for bloat control in animals on pasture. Bloat on legume soilage, however, can be controlled by sprinkling oil over the soilage.

Stilbestrol has not shown great promise in dairy cow rations. Ethyl alcohol at present appears to be no better than certain other energy-yielding products. Thyroactive substances have been discussed exten-

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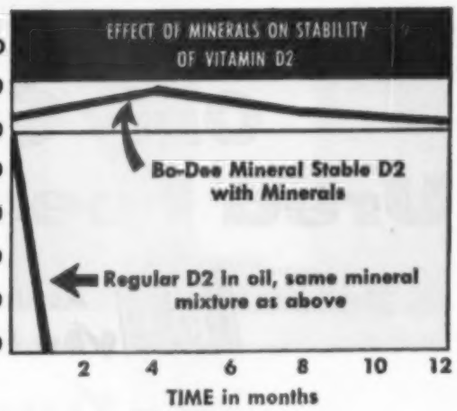

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VIRGINIA CONFERENCE—Some of the speakers at the recent Virginia Feed-Nutrition Conference in Roanoke are shown. Those in the first picture appeared during the swine section; those in the second picture spoke during the poultry section. The speakers are (left to right): L. Y. Ballentine, commissioner, North Carolina Department of Agriculture; Wells E. Hunt, Hygrade Food Products Corp.; Dr. D. E. Becker, University of Illinois; Dr. P. R. Record, Security Mills, Inc.; Thomas F. Honney, the Cryovac Co.; Dr. G. R. Ingram, Alabama Poultry Enterprises, Inc.; Dr. C. E. Howes, Virginia Polytechnic Institute, and L. B. Dietrick, dean of agriculture at VPI. A swine section speaker not shown was Dr. C. C. Brooks, VPI.

sively and will not be considered here. Tranquilizers and other products as yet seem to offer no great promise in dairy rations.

TWILIGHT AREAS IN CALF NUTRITION—Although much research has been done on the nutrition of the calf, many areas are in need of further study, said Dr. N. L. Jacobson of Iowa State. For example, more information is needed on (a) specific requirements for many vitamins and minerals; (b) absorption of immune globulins from the colostrum; (c) factors (including antibiotics) affecting feed efficiency; (d) relation of dietary components to rumen development; and (e) digestion, absorption and utilization of nutrients and factors affecting production of digestive enzymes.

Dr. Jacobson went on to discuss a few specified fields of work. For one thing, he noted, the young calf requires a feed source of high quality protein and most of the B-complex vitamins and is not able to use complex carbohydrates efficiently. The diet must be adapted to these limitations. In addition, the newborn calf is deficient in vitamin A and gamma globulin, both of which must be supplied quickly from the colostrum.

In general, results in milk replacer work indicated that lard, tallow and certain hydrogenated vegetable oils could replace milk fat fairly satisfactorily (if supplemental vitamin A was provided) but that highly unsaturated vegetable oils such as soybean, cottonseed and corn oils were unsuitable. Lecithin improves utilization of several fats.

Dr. Jacobson said the presence or absence of curd in the stomach may be of relatively little significance in milk or milk replacers for calves. Certain other dietary factors are associated with diarrhea. High levels of lactose and/or milk minerals will increase diarrhea. More information is needed.

Several studies have indicated no favorable response to the addition of proteolytic and amylolytic enzymes to the calf diet. However, it is obvious that many factors are involved in the response to these additives, and more work is needed. Iowa data and other results suggest that some carbohydrates such as starch and sucrose probably are of little value in milk replacers. The same may be true for certain types of proteins.

If liberal amounts of liquid feeds are fed, development of a functional rumen proceeds slowly. However, with proper feeding, the change can be largely accomplished in two to four months. But it can be done only if the dry feeds (starter and hay) are palatable and nutritionally adequate and are consumed in appreciable amounts at an early age.

RUMINANT METABOLISM OF VOLATILE FATTY ACIDS—Essentially none of the digestible dietary carbohydrate escapes the action of rumen microorganisms, it was pointed out by R. D. McCarthy of the Pennsylvania State University dairy department. Because of this, much attention has been focused on the volatile fatty acids (VFA) which are the major end products of microbial fermentation in the rumen. It appears this group of compounds may be the primary metabolites serving to meet

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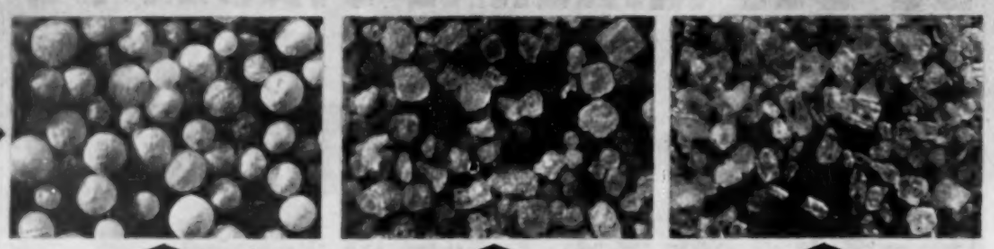

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Kenneth E. Bratney

BOARD MEMBER — Kenneth E. Bratney has been elected to the board of directors of Reid-Strutt Co., Inc., Portland, it has been announced by Duane Tyler, president of the Pacific Coast mill engineering and machinery firm. Mr. Bratney fills the vacancy left by the retirement of R. E. McMillen, who served on the board for 12 years. An engineering graduate of the University of Iowa, Mr. Bratney joined Reid-Strutt in 1949 as a sales engineer. Mr. McMillen was with the Sperry division of General Mills, Inc., for 27 years before becoming associated with Reid-Strutt in 1946.

the energy and synthetic requirements of the host animal.

The speaker described studies from which an overall picture of VFA metabolism may be formulated.

With the understanding of the absorption and fate of the VFA, he said, it is now possible to analyze rumen fluid for its VFA content and have a more meaningful concept of the influence these acids are having on body metabolism.

STUDIES ON BLOAT, HYPOMAGNESEMIA AND VOLATILE FATTY ACID PRODUCTION IN THE RUMEN — Maryland research on these aspects of ruminant nutrition were described by Dr. E. C. Leffel.

The effect of penicillin on in vivo and in vitro volatile fatty acid production by sheep rumen microorganisms has been studied in animals on alfalfa pasture and on high concentrate-low roughage "bloat" diets in drylot. Feeding of penicillin did not affect activity of rumen microflora as measured by concentration of VFA, rate of VFA production in vitro or in vitro gas production. Administration of single doses of 20 mg. to ewes in drylot reduced feed intake by 40% for 4-5 days.

Research on hypomagnesemia in cattle in Maryland indicated the hay fed was the only factor common with the farms where a high incidence of tetany occurred and the feedlot where the tetany was produced. These results suggest that the winter tetany observed in beef cows in the affected area is associated with the forages fed and is a hypomagnesemic tetany of nutritional origin.

The effect of roughage-concentrate ratios on concentrations and molar proportions of VFA produced in vivo and in vitro has been studied with sheep. Total concentration of VFA tended to increase as the percentage of concentrates increased.

Experiments with fattening lambs have been run to study the effect of feeding 6-7 times per day as compared to twice-a-day feeding. The greater frequency has not resulted in any significant differenecs in rate of gain when compared to results from giving the same daily allowance in two feedings.

PROTEIN AND AMINO ACID NUTRITION OF SWINE—Dr. D. E. Becker of the University of Illinois pointed out that it has long been realized that it is amino acids, rather than protein per se, which are critical in swine nutrition. The 10 essential amino acids are arginine, histidine, isoleucine, leucine, lysine, methionine,

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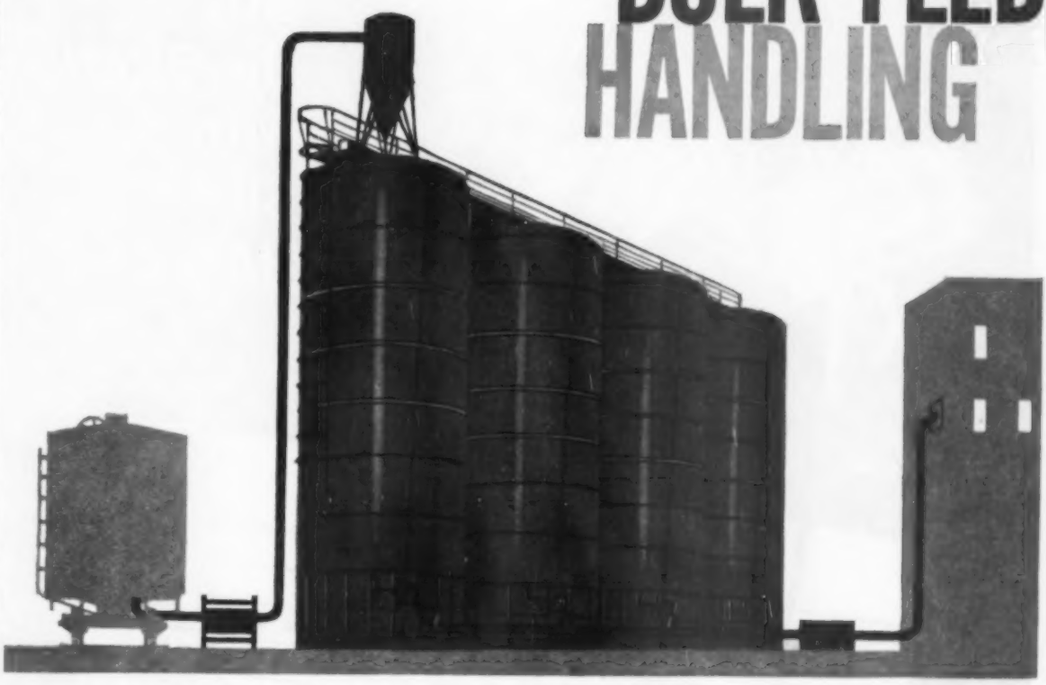

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phenylalanine, threonine, tryptophan and valine.

Dr. Becker pointed out how amino acid deficiencies can exist in the presence of protein levels that conform to the minimum recommendations. All proteins, regardless of their amino acid distribution, will not necessarily satisfy the pigs' need even when fed at prescribed levels. Hence it is essential that nutritionists have a complete knowledge of amino acid needs when formulating diets.

Discussing studies on amino acid requirements, Dr. Becker noted that amino acid needs at one protein level will not satisfy the need at all protein levels. For instance, Illinois studies have shown the isoleucine requirement is markedly different at two protein levels.

In previous attempts to state amino acid needs of swine at a range of protein levels, it has been assumed the need is a constant percentage of dietary protein. However, as noted in the Illinois research, the isoleucine required in the protein decreases as the level of protein increases. A similar observation has been made with lysine, but other work is not in agreement. Data with the chick verify the principle that the required percentage of certain amino acids in the protein decreases in a fairly direct fashion as protein level increases, but it remains to be determined whether this interaction applies to all the indispensable amino acids.

Dr. Becker went on to present calculated amino acid needs of the weanling pig at various protein levels. The values are based on the principle that the amino acid requirements, expressed as a per cent of the protein, decrease in a linear manner as the level of protein increases.

EFFECTS OF HORMONES ON THE GROWTH AND FATTENING OF SWINE—E. P. Young of the Maryland animal husbandry department summarized various research studies in this field.

He observed that the response of swine to hormone treatments differs from that of ruminants. A survey of previous work suggests that levels of administration have been too high to elicit a physiological response that would alter patterns of growth.

Later work with lower levels of administration and attention to time of dosage in the growth phase have given more promising results. However, many problems remain to be solved before hormone administration can be a routine practice in swine feeding.

To Paris Conference

MADISON, WIS.—H. L. Self, assistant professor of animal husbandry, University of Wisconsin, will attend a special conference on swine to be held in Paris, France, March 25-27. He will give a paper on artificial insemination of swine at the conference, and then will remain in Europe for about a month to visit Germany, Denmark, Norway and England.

Financing Considered Big Factor in Growth Of Broiler Industry

FAYETTEVILLE, ARK. — Short-term financing has been a major factor in the growth of the broiler industry in the South, according to a study made by the University of Arkansas Agricultural Experiment Station in cooperation with 10 other Southern states and the U.S. Department of Agriculture.

Some of the finance plans now in use in the South are open account, share contract, flat fee, labor or salary contract, feed conversion, guaranteed price and combinations of these plans.

Under the open account plan, the grower buys feed, chicks, medicine, fuel, litter and other production items from the dealer on "open account" and pays for them when the broilers are marketed.

On a share contract, the feed dealer may furnish production items and the grower supplies the broiler house, equipment and labor. Profits or losses are split on the basis of each party's investment.

Under the flat fee arrangement, the dealer supplies feed, chicks, medicine and other production items to the grower, who is guaranteed a fixed amount per bird marketed or per pound sold. The grower under a labor or salary contract is paid for his labor on a guaranteed basis per thousand birds started or simply on a per week basis.

Under a feed conversion deal, the dealer pays the grower according to a fixed schedule based upon feed conversion (pounds of feed required to produce a pound of broiler, live weight).

The guaranteed price plan means that the grower is guaranteed a specified price at market time. Occasionally a "no-loss" clause may be inserted to protect growers from heavy losses.

Broiler growers, dealers or anyone else interested can get more information about financing broiler operations by obtaining Southern Cooperative Series Bulletin 57, "Financing Production and Marketing of Broilers in the South, Part II: Grower Phase." Single copies are available free from the Bulletin Room, Agricultural Experiment Station, University of Arkansas, Fayetteville.

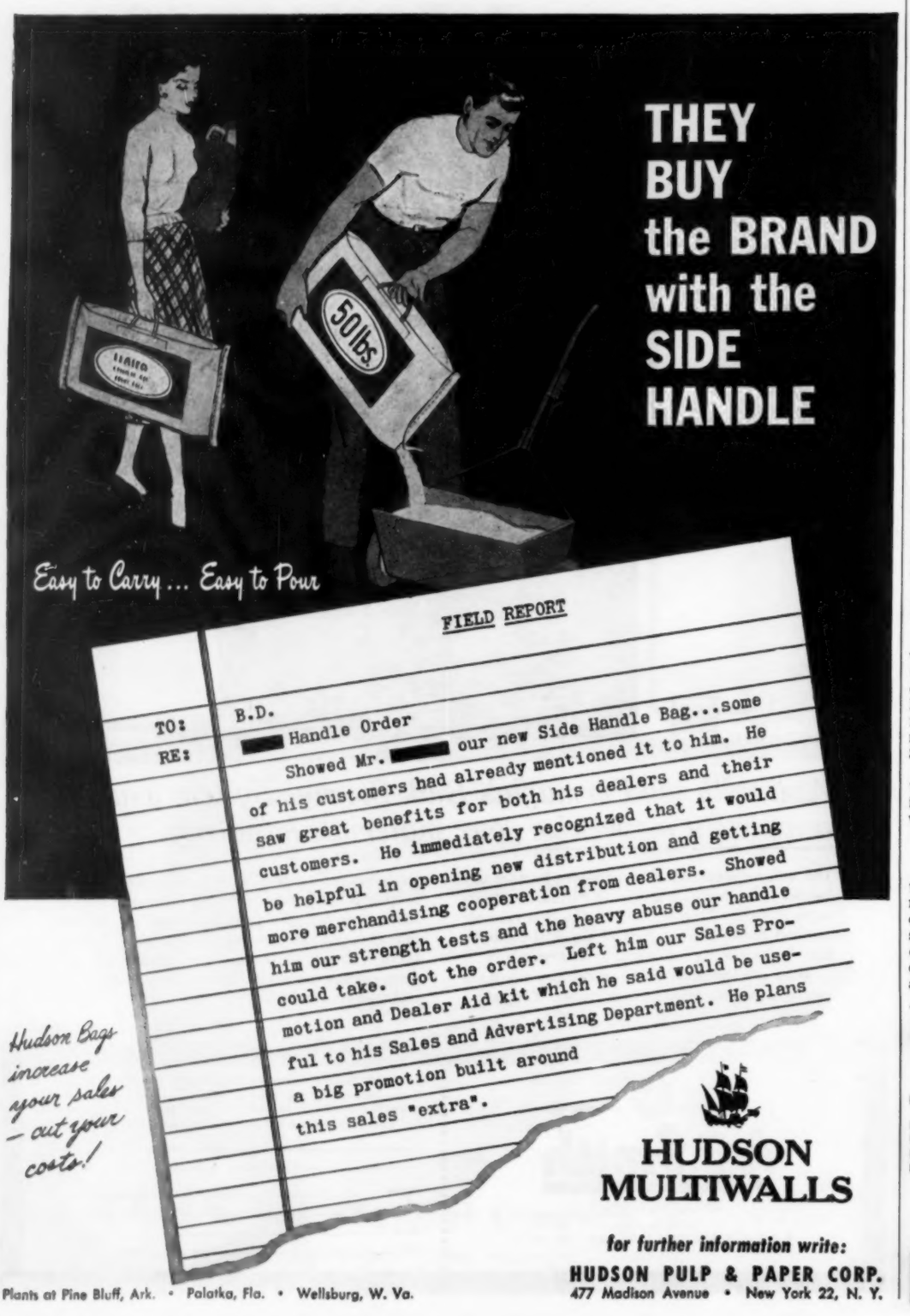
New Office in Boston

BOSTON—A new office area, which features a teletype communications center at its heart, has been occupied by the Dow Chemical Co.'s New England sales office on the sixth floor of the new International Business Machines Building, 520 Boylston St., Boston.

The center relays customer orders to any Dow manufacturing location in the country via the company's private line teletype network.

DISCUSS PELLET MILL

FORSYTH, MONT.—It is reported that farmers, ranchers and businessmen in the vicinity are interested in establishing a pellet mill in the Forsyth area as a market for feeds produced locally as well as a local source of feeds, particularly range pellets and fattening feeds.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Pelleting Discussions at K.C. Seminar Set Stage for Feed Production School

By ROGER BERGLUND
Feedstuffs Managing Editor

KANSAS CITY—Feeds have been pelleted now for just about 30 years. But, based on at least some indications, problems as well as opportunities in the production and handling of pellets are probably greater than they were years ago. Behind many of the problems, of course, are the increasing complexities resulting from modern nutritional knowledge, new feeding practices and handling methods. And behind some of the complexities is the fact that pelleting itself offers various advantages in handling and feeding as well as in nutritional value.

Arthur Saalfield

At any rate, pelleting today presents the feed mill operator with a wide range of problems and developments which touch all phases of his and his customers' operations—and not the least of these is the task of the man concerned directly with production and handling of pellets.

Pelleting will be the principal subject at the 1959 Feed Production School, to be held Sept. 23-25 at the Continental Hotel in Kansas City. And to set the stage for the school, Feed Production School, Inc., held a pelleting seminar March 5-6 in Kansas City.

Delving into some of the pelleting problems and questions of concern to feed manufacturers and feed production men were some 50 experts from machinery firms, feed companies, colleges and research organizations.

The two days of discussion, designed as a guide for research and production school program planning, brought out various pelleting problems, possible research projects, new methods and equipment ideas.

Roughage Pelleting

Discussed along with conventional pelleting was wafering of forages and complete rations. In fact, the pelleting and wafering of these types of feeds for ruminants occupied a good share of the attention at the seminar.

Arthur J. Saalfield, the Quaker Oats Co., Sherman, Texas, chairman of the production school committee, conducted the seminar, aided by committee members and Lloyd S. Larson of Feed Production School, Inc., a corporation which now holds the annual school.

Based on discussions and seminar presentations, certain research projects will be conducted and the results presented at the school in September. The projects will be conducted or sponsored by private companies, research organizations and Feed Production School, Inc.

The committee indicated that definite or tentative plans call for these projects:

1. Installation and operating costs for pelleting in three sizes of feed mills—30, 100 and 200 tons per day. Three types of formulas—roughage, complete rations and concentrate—would be covered.
2. Effects of pelleting operations on micro-ingredients.
3. Effect of steam conditioning capacity on pellet hardness, percentage of fines and partial gelatinization of starches; effects of die speeds on pellet hardness for different types of pellets and cubes.
4. Effects of various systems of bulk handling on the creation of "fines" in pellets.
5. Comparisons of costs of feed handling and delivery methods under various conditions, including bulk and bagged feeds.

The production school committee also developed broad plans for some of the pelleting topics, in addition to the research reports, to be presented and discussed at the school.

These include: (1) Pelleting of straight roughage, including wafering, conventional pelleting and processing and handling of forage from field to mill. (2) Pelleting complete rations—including roughage-and-concentrate rations for beef cattle and sheep; swine and poultry rations; and complete dairy rations (containing both roughage and grain). (3) Extending die life and roll life. (4) Pelleting dairy feeds. (5) Pelleting of feeds containing problem ingredients like dried milk, sugar, whey and urea. (6) Pneumatic and mechanical methods of conveying pellets. (7) Pelleting high-molasses feeds. (8) Crumblizing, including use of a two-break system. (9) Effect of formulation on pelleting.

Following are brief summaries of

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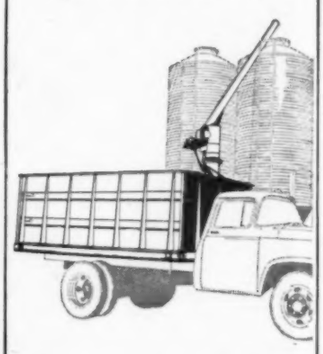

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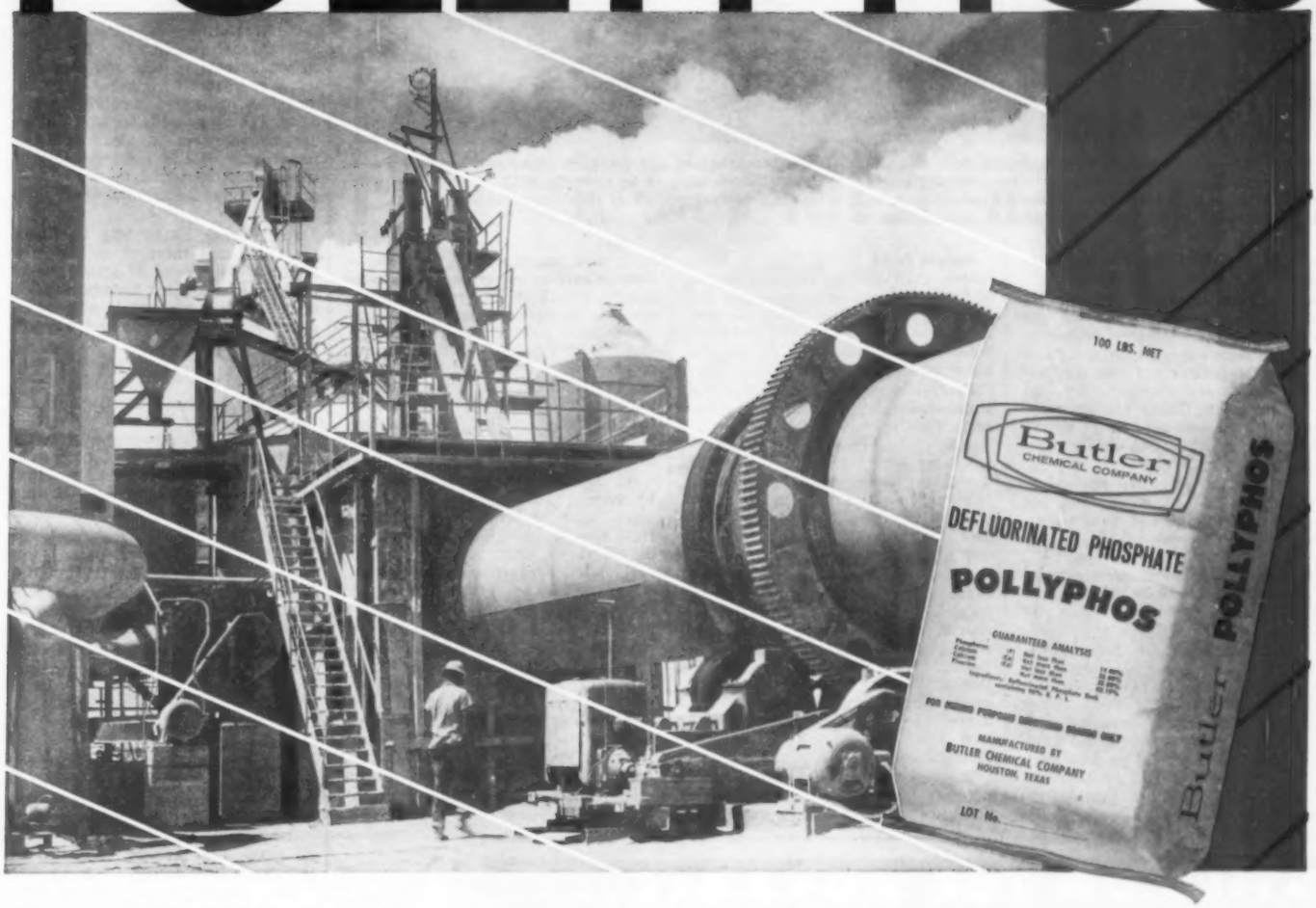

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SEMINAR—These men from equipment, feed and other firms and organizations took part in the pelleting seminar held recently in Kansas City by Feed Production School, Inc. The seminar, delving into all aspects, will provide the basis for program and research plans for the 1959 Feed Production School, to be held Sept. 23-25. Pelleting will be the principal subject at this year's school.

some of the talks and research discussions presented at the seminar:

C. E. Reuther, Helm Manufacturing Co., Ft. Worth, pointed out the interest in high roughage-low concentrate pelleting, and he described work on the pelleting of long chopped hay and coarsely chopped hay and other materials. There are no great changes from conventional pelleting, he indicated, but certain changes and limitations are involved.

V. Komuchar, International Harvester Co., Chicago, described his company's experimental field pelletizer—the piston type—which picks up hay and makes a wafer 4 by 1½". Certain mechanical and capacity problems are still to be worked out, he indicated. Preliminary data, he said, indicate the wafer is acceptable.

Roy C. Elrod, alfalfa division, Archer-Daniels-Midland Co., Minneapolis, representing the American Dehydrators Assn., discussed nutritional aspects of roughage pelleting. He cited studies showing improved gains and feed efficiency, and he also mentioned work indicating a coarse grind is apparently desirable, particularly with dairy cows.

Robert Dodd, Daffin Mfg. Co., Lancaster, Pa., suggested that pelleting of forage be considered one thing and wafering another. The latter, he said, is a new field within the industry, with wafering primarily taking the place of baling.

Prof. George Pickard, University of Illinois agricultural engineer, described his school's work on field machinery to make hay wafers. Work has been done on making wafers in a closed cylinder, and further work is planned on the mechanisms in extrusion wafering. In laboratory studies 3½" wafers have been made from hay of varying moisture content.

Dr. W. E. Dinusson, animal nutritionist from North Dakota Agricultural College, as part of the discussion of various types of complete rations, described his work on complete barley pellets for swine, citing improved results. Regarding complete pellets for ruminants, he mentioned a need for more information on costs and on acceptability of different size pellets.

Frank Allen, equipment department, Archer-Daniels-Midland Co., Kansas City, pointed out certain handling and manufacturing considerations in making complete rations containing, say, 50 to 70% roughage. The average farmer cannot set up and make these pelleted rations economically on his own; the feed industry will be able to do it more economically. He stressed the importance of handling in this type of operation; for example, in a vertical bin, if hay is beyond ½" grind, it won't flow properly.

A. L. Stanchfield, International Machinery Development Co., Minneapolis, said the future is in complete rations, pelleted at the local level. He described his firm's no-steam pellet mill and mentioned installations where production averages 10 tons per eight hours and 2500 lb. per hour.

Roy C. Elrod, in a talk on complete pelleted rations for ruminants, mentioned advantages of these feeds and then discussed certain problems. For one thing, he said, there is work indicating less favorable results from fine grinding with beef cattle and lambs as well as dairy cows. He said he is fairly convinced that ¼" or more is needed in complete feeds. Rumenal parakeratosis, costs and other problems also were mentioned.

J. H. Waldron, Sprout, Waldron & Co., Muncy, Pa., said there is increasing recognition of the advantages of pelleted dairy feeds, and he predicted an increasing trend in this direction. He said that his firm would develop information on pelleting these feeds for presentation at the school.

R. L. Patterson, Procter & Gamble Co., Cincinnati, presented some information on broiler feeds with added fat, including work on pelleting these feeds.

Dr. Chase Wilson, Consumers Cooperative Assn., Kansas City, outlined advantages of complete pelleted rations for dairy cows. He feels there are enough advantages to offset the possible problems of reduced butterfat but thinks this should be overcome, too. He showed examples of complete pellets and wafers.

C. N. Hultberg, California Pellet Mill Co., Crawfordsville, Ind., discussed aspects of dry and wet pelleting and listed advantages of steam, including capacity, flexibility and costs. Too many mills, he said, do not use enough steam. He also told of the importance of the right amount of steam and the right type of die with problem ingredients like dried milk and sugar.

Art Stegner, Butler Mfg. Co., Kansas City, said there is an industry need for uniformity of standards on pellet hardness. Also, he reported, his firm is willing to conduct a study of pellet handling methods and ways to reduce breakage.

Robert C. Wornick, chemical laboratories, Chas. Pfizer & Co., Inc., presented a tentative outline for a project to gather data on the effects of pelleting on micro-ingredients. He mentioned such possible problems in pelleting as micro-ingredient stability and decomposition in the pelleting process. He plans to gather as much data as possible on this and other aspects of the question.

Merle A. Williams, McMillen Feed Mills, Decatur, Ind., outlined advantages and disadvantages of various handling systems in handling pellets.

Lou Bosso, Timmons & Evans, Kansas City, said a pneumatic system "can be the best answer" under various conditions in handling pellets. He described a system marketed by his firm.

Will Brooks, Illinois Farm Supply Co., Springfield, Ill., described an operation at his firm in which a conventional hard pellet machine is used to make pellets containing 20 to 27% molasses. This will be explained at the production school.

Phil Murray, the Pillsbury Co., Clinton, Iowa, explained a two-break system for making crumbles. Less repelleting results, he indicated. There are 10-15% fines on the first break and 5-8% on the second break.

Dr. E. L. Stephenson, poultry nutritionist at the University of Arkansas, Fayetteville, explained some of the advantages of pelleting in feeding poultry, including improved nutrient value.

James Leker, Staley Milling Co., Kansas City, raised several questions in connection with conditioning (not just cooling) pellets, and he listed various problems and possible ways to improve conditioning equipment.

C. E. Swick, Kent Feeds, Muscatine, Iowa, a production school committee member, substituted for Dr. Charles Lewis of his firm on the seminar program. Mr. Swick said questions raised include: (1) Effect of pelleting on thiamine, folic acid, amino acids. (2) Maximum temperature at which one can pellet without breaking down such nutrients as vitamins A and D. (3) Maximum temperatures for various protein ingredients. (5) Holding together a high-corn pellet without use of a binder. (6) Pelleting with high milk and sugar content.

Gene Gannett, Container Laboratories, Chicago, explained a study being conducted on costs of handling

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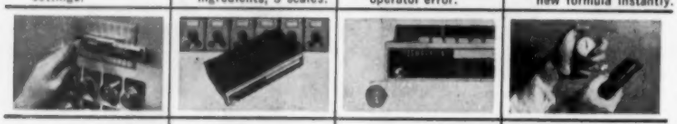

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CONTEST WINNERS—Winners of a national contest for all Pillsbury Feed sales personnel hold trophies they were awarded at a special awards dinner at Clinton, Iowa, attended by officials of the Pillsbury Co. The championship group, members of the Atchison, Kansas, sales force, includes (left to right): Front row—Bill Barnes; LeMoine Fergesen; Charles Dobbs, plant sales manager; Bud Norton, and Ken Berquist; back row—Phil Rohwer, Fred Scantlin, Gordon Renfro and A. E. Dennis. As winners of the annual "Golden Flock" contest, the salesmen received personally inscribed golden eggs and cash prize awards.

and delivering feed in bags and bulk. The study, sponsored by the Textile Bag Manufacturers Assn., will be a nationwide study, he said, covering all cost factors in all sizes of mills. He described his organization as an independent engineering, consulting and research firm.

Clifford James, Richard Muther & Associates, Kansas City, outlined some research project proposals, including certain cost studies of pelleting.

Dr. Sheldon Levy, Midwest Research Institute, Kansas City, discussed the necessity of determining some of the basic physical properties of the materials and the role that friction plays in pelleting. He mentioned possible effects of temperature on vitamins.

Charles Morrison, John Deere & Co., Moline, Ill., mentioned a new development in baling which might be of use in connection with handling and transporting hay to feed mills. He also discussed the possibility of macerating stems of forage, and he mentioned the possibility of hay chopping in the field prior to pelleting.

A representative of the **Wenger Mixer Mfg. Co.**, Sabetha, Kansas, was not able to be present, but outlined at the seminar were two planned Wenger research projects — one on measuring the effect of steam conditioning capacity on pellet hardness, percentage of fines and partial gelatinization of starches in hard pelleting; and the effect of die speeds on pellet hardness for various types of pellets. The findings are to be presented at the school in September.

Several other persons from feed and other firms also took part in some of the discussions — all of which served to point up the increased interest in pelleting all types of rations and some of the problems that the feed industry faces. While the seminar was concerned primarily with production, running through much of the discusion was the nutritional aspect of the whole subject.

Meeting in connection with the seminar was the production school committee. In addition to Mr. Saalfield, members include J. D. Johnson, General Mills, Inc., Minneapolis; Dr. John Shellenberger, Kansas State College; Mr. Swick of Kent Feeds; and Kenneth Winterscheidt, Winterscheidt Milling Co., Seneca, Kansas. Advisory committee members are Jerry Karstens, Feed Age, Chicago, and Roger Berglund, Feedstuffs, Minneapolis.

Wins Pfizer Contest

NEW YORK — Bob Ahlin, nutritionist at Doughboy Industries, Inc., New Richland, Wis., was named top prize winner in a recent contest sponsored by the agricultural division of Chas. Pfizer & Co., Inc. He was one of several hundred feed and allied industries men who participated in a "pick the ad" contest sponsored by Pfizer. Judges in the contest were 10 Illinois hog farmers. Mr. Ahlin's prize was an 11-piece gold-embossed leather desk set.

FEED FIRM CHARTERED

DENVER—Denver Feed Co., 6151 Brighton Blvd., has been incorporated, listing $100,000 capitalization, by Forest E. Clerk, Jr., Bernard D. Morley and Jay E. Lutz. Directors are Norbert G. Goldman, Carol A. Schreiber and Martin Zerobnick.

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Canada Cites Savings In Nation's Policies On Disease Control

OTTAWA — Canada's policy of stamping out certain diseases before they can get a strangle-hold on the country's livestock industry has saved farmers thousands of dollers, it is reported here.

Canadian agriculture runs the risk of losing valuable export markets if contagious animal diseases are allowed to become established, and federal veterinarians agree it is cheaper to the producer and the entire industry to eliminate these diseases, the report said.

Foot-and-mouth disease was cited as an example of how it pays to wipe out certain dreaded diseases. Only once did this killer get a toe-hold in Canada, but the results were costly.

Direct losses from the foot-and-mouth outbreak in Saskatchewan seven years ago amounted to $1 million. Markets to which Canadian livestock and agriculture products normally moved were immediately closed, and it was estimated that the drop in potential value was $648,278,000.

There are other costs to be considered, the report pointed out. Health of Animals, Canada Department of Agriculture division, estimates a vaccination program for hog cholera would cost swine producers $6.8 million a year.

This is based on the U.S. cost of $1 per hog up to market age to control cholera, and on Canada's swine population of about 6.8 million head.

Canada Program

Instead of living with the disease and depending on vaccination, Canada halts any outbreak by slaughtering diseased hogs and compensating the owners. Over the past decade, there have been seven outbreaks in which 3,459 pigs were slaughtered. Compensation costs were $96,590.

The worst cholera epidemic since the turn of the century occurred in 1940-41 when $204,176 was paid out in compensation to farmers. The cost of completely driving out this disease, though, is only a shadow of what it would be to live with it, the report said.

Canadian sheep producers have been told that any relaxation in this country's scrapie eradication program could jeopardize the export of purebred breeding stock and feeder lambs to the U.S. In fact, it is felt that certain segments of the U.S. sheep industry will press for more rigid control on import and on interstate movement.

Veterinarians of the health of animals division sounded this note of warning at meetings of Western Canada and Ontario sheep growers.

Scrapie is a chronic disease of sheep involving the central nervous system and characterized by nervous symptoms, such as itching and lack of coordination. It ends in paralysis and death.

It was first identified in Canada in a Suffolk ewe imported from Scotland in 1938. Since 1945, there have been 14 outbreaks in which 1,570 sheep were ordered destroyed and their owners compensated.

Four years ago, a ministerial order was signed prohibiting further importation of sheep from the United Kingdom.

Under the present Canadian control program, an entire flock is slaughtered after a case of scrapie has been discovered. Sales from the flock for the preceding 42 months are tracked down and kept under scrutiny. The premises are ordered cleaned, and the owner is advised not to restock for 90 days.

The U.S. control program is similar to that of Canada, but more stern. Up to November last year, 138 positive cases of scrapie had been diagnosed in 70 flocks, and 38,611 sheep in 1,101 flocks were destroyed.

A Canadian observer accompanying a U.S. fact-finding committee studying the scrapie control program reported that the majority of the American sheep industry supported the present eradication program, and that some segments may urge more rigid controls.

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California Dealers Set Meeting April 23-25

SACRAMENTO, CAL. — Reservations are being accepted by the Housing Bureau, Room 300, 61 Grove St., San Francisco 2, for the annual convention of the California Hay, Grain & Feed Dealers Assn. at the Fairmont Hotel, April 23-25.

Some of the events already planned include a ladies luncheon and fashion show, a bowling tournament and golf tournament, all on April 23 and the convention breakfast April 25.

NEW HATCHERY PLANNED

NEWPORT, ARK. — Chemell's Hatchery, Inc., Newport, will soon start construction of a new poultry hatchery here. George W. McDaniel, manager, said the unit will have the capacity to hatch 125,000 to 150,000 chicks each week. He said the facility will cost approximately $300,000 to construct and equip.

DYNAFAC
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Regularity of dynafac performance is practically unique. The word is spreading . . . feeder to feeder; success stories are appearing continuously in the farm press and radio; in college reports from all parts of the nation — DYNAFAC PREMIX makes a good feed better!

Feeders have discovered that DYNAFAC PREMIX helps produce beef at new record lows in cost/100 lbs. of gain. They've seen living proof in their own feedlots that DYNAFAC PREMIX gives them better protection, too, against Bloat and Founder. The *new* DYNAFAC PREMIX label lists *results you can expect to get* with dynafac:

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1. For promoting growth and feed conversion.
2. For the control of scours of bacterial origin.

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1. For promoting growth, feed conversion, bloom, and on full feed earlier.
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A new farm hand from the city was told to harness a mule one winter morning in the early hours. In the dark he tackled a cow instead of the mule. The farmer shouted from the house, "Say there, what's keeping you so long?"

"I can't get the collar over the mule's head," shouted the new man. "Both his ears are frozen solid."

◆ ◆ ◆

A neighbor went over to a young newlywed's house and found her in tears. "Why, what's wrong, Marge?" she asked.

"I made a cake and put it in the refrigerator and there isn't any frosting on it yet," she replied.

◆ ◆ ◆

The salesman gasped when the gorgeous blonde opened the door. "Madam," he gulped, "may I see your husband?" Said the beautiful blonde: "Oh, he's gone to Hawaii and won't be back for six weeks." "Then," said the salesman, "may I come in and wait?"

◆ ◆ ◆

A couple of young boys walked into the dentist's office and one faced boldly up to the dentist and said, "Doc, I want a tooth took out and I don't want no gas 'cause I'm in a hurry."

"My," said the doc, "I must say you're a brave boy. Which tooth is it?"

The little boy turned to his silent friend and said, "Show him your tooth, Albert."

◆ ◆ ◆

"How much do I owe you for curing my deafness?"

"Twenty dollars."

"Did you say thirty dollars."

"No, fifty dollars."

◆ ◆ ◆

Big executive asked his steno: "Quick, quick, Myrtle, where's my pencil?" Steno: "It's right behind your ear, sir." B.E.: "Come, come, Myrtle, I'm busy, be explicit, which ear?"

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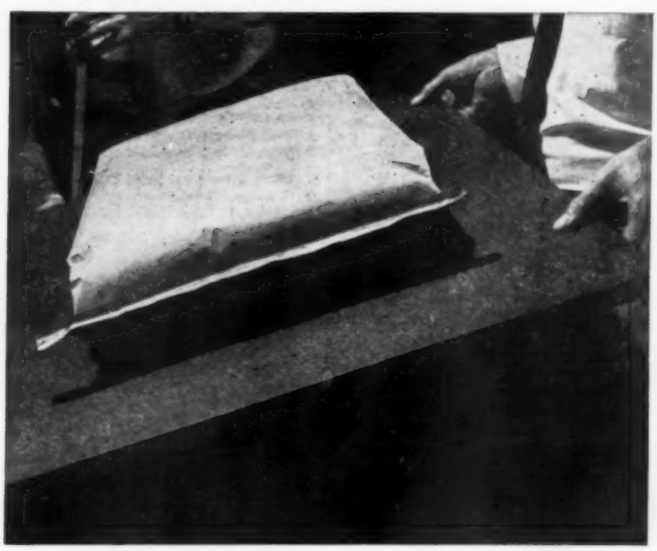
Here is a simple, convincing do-it-yourself test for comparing the new Bemis Anti-Skid Multiwall and any other nonpremium multiwall. Put one bag on a smooth board and tilt it, measuring the exact point at which the bag starts to skid. Then try it with the other bag. O. K.—go ahead.



There are many commercial anti-skid papers and anti-skid treatments. Some are only partially effective. Others are expensive ... demand a high premium!

But *now*—Bemis offers a new sheet that will give you definitely the best anti-skid performance of any multiwall *at no upcharge*. Its performance is equal to or better than many anti-skid multiwalls for which you pay a premium price.

And the new Bemis Anti-Skid Multiwalls make possible still finer Bemis brand printing because of the smoother paper surface. (The increased surface friction is obtained through the addition of a special compound during the papermaking process. The paper does not "feel rough.")

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BINGMAN'S P-17

WHEN FED AS DIRECTED P-17

Aids in Control of MASTITIS

Aids in Reduction of SCOURS

Aids in Prevention or Treatment of FOOT ROT

Aids in Reduction of RESPIRATORY INFECTIONS

Herds Tested	FIRST TEST Quarters Tested	Clear	SECOND TEST (in 60 days*) Quarters Tested	Clear	Infd.	Percent Cleared
A.	32	21	28	28	0	100%
B.	95	76	112	108	4	79%
C.	80	34	68	55	13	72%
D.	68	52	68	64	4	78%
E.	74	38	79	72	7	81%
F.	83	69	78	76	2	85%
G.	60	34	44	39	5	81%
H.	36	27	28	26	2	77%
I.	16	11	16	15	1	80%
J.	32	16	28	25	3	81%
K.	48	41	60	59	1	86%
	624	419	609	567	42	79.5%

INDICATION OF SEVERITY OF INFECTION

Degree	1st Test	2nd Test
Slight	94	30
Infected (Mastitis)	66	9
Chronic (Mastitis)	45	3
Total	205	42

ASK ABOUT BINGMAN'S P-17 GUARANTEED FEEDING PROGRAM!

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Federation Against Connecticut Bill On Feed Labeling

SHERBURNE, N.Y.—The Eastern Federation of Feed Merchants, Inc., is opposing a Connecticut bill which would require feed packages to be marked with the number of pounds per ton of each ingredient contained, according to an official bulletin published by the federation.

The bulletin states that Axel E. Larson, state representative from Woodstock, Conn., said he introduced the bill in the Connecticut General Assembly at the request of a number of poultrymen. Mr. Larson is a dairy farmer.

Opposition to the bill has been registered, said the federation, because "the open formula idea in feeds gives no protection to the feeder." The federation believes, according to the bulletin, "there is no method for determining the exact amount of any ingredient in a feed."

The federation also opposes the bill because such a requirement would "offer an opportunity for an unscrupulous feed manufacturer to practice deception upon feeders, while at the same time creating an unfair competition advantage against ethical manufacturers."

California Changes Turkey Board Terms

SACRAMENTO, CAL.—The director of agriculture for California has issued a minor amendment to the marketing order for the promotion of California turkeys.

Under the amendment, which became effective March 10, the term of office of members and alternate members of the turkey promotion advisory board begins March 1 of each odd numbered year and extends through the last day of February of the following odd numbered year. This amendment complements an amendment previously made effective changing the beginning of the marketing season from July 1 to March 1.

The minor amendment was recommended by the turkey promotion advisory board so that the term of office of the board members would coincide with the marketing season and not change in the middle of the summer promotion period.

Alfalfa Processors Name New Officers

TOLEDO, OHIO — The Alfalfa Processors Assn. elected Marvin Rohloff, Rohloff Bros., Inc., Graytown, Ohio, president, at its recent annual meeting in Toledo. Other officers are Ray Verhoff, Verhoff Alfalfa Mills, Ottawa, Ohio, vice president, and Joseph Cousino, Erie Alfalfa Mills, Erie, Mich., secretary-treasurer.

Directors, other than the officers, are: A. H. Poppe, L. J. Schiller, Lester Lusher, D. E. Merrick, Eric Mengering and Don Calvert.

Association committees include:

Arbitration — E. R. Burkholder, chairman; Kenneth Jones, G. A. McDonald, John Pharo and John Simonett.

Trade Rules—John Dwiggins, chairman; Howard Clark, H. G. Moeller, C. W. Scheurer and L. J. Schiller.

Research—L. M. Faris, J. W. Fielder, H. R. Bird and H. C. Schaefer.

OPEN HOUSE AT MANSON, IOWA

MANSON, IOWA—Open house was held Feb. 28 by the Wieston Grain Co. at the Manson elevator office. A public tour of the new bulk feed plant was conducted. Representatives from the Allied Mills, Inc., plant at Mason City were special guests.

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Co-op Names Officers, Reports Sales Boost

WEST SPRINGFIELD, MASS.—W. D. Milsop was reelected general manager of the Eastern States Farmers Exchange recently when 1,200 members from nine states gathered for the annual meeting of the cooperative.

William H. Prigmore was reelected assistant general manager and Miss Mildred E. Pike was reelected treasurer.

The new president of the cooperative is Jonathan Davis, Sterling Junction. He succeeds Mark N. Witmer, Dalmatia, Pa.

Mr. Milsop reported to members that feed sales had increased 2% during the year, and grinding and mixing services were up 20%. Other increases included boosts of 14% in farm supplies, 11% in fertilizer and 10% in agricultural chemicals.

He said the farm supply department grossed more than $5 million for the first time.

In his discussion on feeds, Mr. Milsop referred to the increasing complexity of providing feeds, stating that Eastern States in 1958 made the largest number of feeds in its 41-year history. There was also an increasing number of custom mixes, he said.

Comment Deadline On Food, Drug Proposal

WASHINGTON—"A further extension of the time allowed for filling written comments upon the proposal of the commissioner of food and drugs to establish a regulation listing certain substances that are generally recognized as safe and thus exempt from the requirements of the Food Additives Amendment of 1958 is necessary to allow appropriately qualified experts opportunity to study and comment on the proposal."

This statement was issued recently by John L. Harvey, deputy commissioner of food and drugs. He went on to say that there was published in the Federal Register of Jan. 6, 1959 (24 F.R. 109), a notice extending the time for filing comments on the proposed definitions and procedural and interpretive regulations (including the subject matter of this order) to Feb. 7, 1959.

"Therefore, it is ordered by the commissioner, pursuant to sections 409 and 701 of the Federal Food, Drug and Cosmetic Act (52 Stat. 1055, 72 Stat. 948; 21 U.S.C. 348, 371), that the time for filing written comments on that portion of the proposed order of Dec. 9, 1958, dealing specifically with substances proposed to be exempted from the requirement of tolerances (121.100) be extended to April 9, 1959," Mr. Harvey stated.

New Equipment Boosts Soybean Plant Capacity

MINNEAPOLIS—A new desolvitizer toaster at the Minnesota Linseed Oil Co. processing plant has resulted in an increased capacity for removing hexane from soybean meal and toasting it at the same time, officials report.

Through this improved efficiency the plant can now produce 500 tons of soybean meal, or 400 tons of linseed meal, daily, according to a company announcement. Current production of oil is 200,000 lb. of soybean oil, or 400,000 lb. of linseed oil a day.

The plant, located in Minneapolis, was built in 1949 with a processing capacity of 7.5 million bushels. It includes 2.5 million bushels grain storage.

The announcement noted that "more and more, the company finds itself developing special linseed and soybean oil to customers' specifications. A laboratory staffed by 10 research chemists can run development projects as well as quality control to fit the exacting requirements of the oil buyer."

It was noted that during the past year the plant often has been switching from flax to beans and back again as dictated by market conditions.

Publishes Booklet On Animal By-Products

CHICAGO—A new booklet, "Physical, Chemical and Flow Characteristics of Animal By-Product Feedstuffs," has been published by the American Meat Institute Foundation, Chicago.

The pamphlet, known as Bulletin 40, reports data accumulated by O. G. Rasmussen and O. H. M. Wilder of the foundation's division of animal feeds.

The foundation pointed out that variable physical, chemical and flow characteristics of animal by-product feed materials can create handling problems, since bins, chutes or other facilities that are efficient in handling one product may prove less effective in handling another.

Copies of the AMIF bulletin will be provided on request to H. A. Armstrong, chief, division of information and service. The foundation's address is: 939 E. 57th St., Chicago 37.

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- Bran and Shorts
- Tankage
- Meat Scraps
- Other Feed Ingredients
- Grain—oats, corn, wheat, rye, barley, soybeans

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You find your handling costs going down right away when you use the new Burrows 1200 Bulk Scale. You eliminate costly delays at floor scales and hoppers, you can weigh all kinds of grain and feed "on the move." This saves labor costs and increases the efficiency of your operation.

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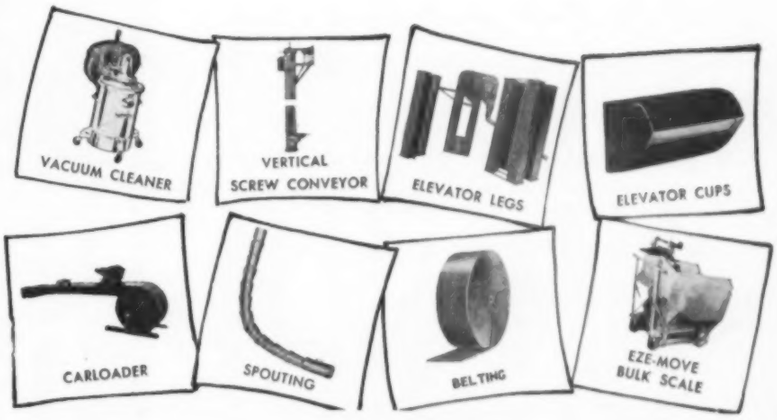

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U.S. Farm Animal Population by States

Note: Number of livestock and poultry on farms and ranches (livestock and poultry not on farms are excluded), Jan. 1, 1959 (000's omitted). Source: USDA

State	ALL SHEEP AND LAMBS		HORSES AND MULES		CHICKENS —Total—		CHICKENS —Hens—		CHICKENS —Pullets—		CHICKENS —Other chickens*		TURKEYS** ALL TURKEYS —Heavy—		TURKEYS** ALL TURKEYS —Light—		TURKEYS** —Total—		TURKEYS** BREEDER HENS —Heavy—		TURKEYS** BREEDER HENS —Light—		TURKEYS** BREEDER HENS —Total—	
	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959
Maine	42	43	10	9	4,004	3,950	859	936	3,038	2,886	107	128	10	11	1	..	11	11	5	7	1	..	6	7
New Hampshire	9	9	5	5	2,800	2,883	588	559	2,088	2,192	132	132	19	18	1	1	20	19	10	10	1	1	11	11
Vermont	14	14	12	11	986	978	185	220	767	721	34	37	9	8	..	..	9	8	6	5	..	..	6	5
Massachusetts	12	12	7	7	4,164	4,160	1,124	1,034	2,926	3,014	118	112	51	51	..	..	51	51	19	18	..	..	19	18
Rhode Island	2	2	1	1	491	499	141	125	337	361	13	13	3	3	..	..	3	3	1	1	..	..	1	1
Connecticut	10	10	4	4	3,869	4,106	1,251	1,326	2,526	2,678	102	102	24	27	1	..	25	27	14	16	1	..	15	16
New York	186	189	48	42	10,673	10,244	4,445	4,000	5,908	5,908	320	336	68	57	2	2	70	59	39	40	1	1	40	41
New Jersey	18	19	10	9	14,875	14,371	5,039	4,686	9,242	9,150	594	535	16	12	2	2	18	19	7	9	1	1	8	10
Pennsylvania	264	259	52	50	21,881	21,735	6,964	6,407	13,716	14,127	1,201	1,201	157	160	21	20	178	180	51	47	5	5	56	52
N. Atlantic	547	557	149	138	63,765	62,926	20,596	19,293	40,548	41,037	2,621	2,596	357	352	28	25	385	377	152	153	10	8	162	161
Ohio	1,278	1,276	58	53	13,735	14,064	4,914	4,324	8,479	9,412	342	328	164	153	71	107	235	260	116	105	55	82	171	187
Indiana	652	521	37	33	13,472	13,718	3,883	3,689	9,198	9,658	391	371	51	53	4	5	55	58	23	27	1	2	24	29
Illinois	750	767	54	49	17,041	17,399	5,472	4,925	11,318	12,223	251	251	59	60	6	6	65	66	26	27	3	3	29	30
Michigan	405	424	36	33	9,206	9,868	3,502	3,327	5,591	6,038	265	318	87	96	8	9	95	105	60	73	4	3	64	76
Wisconsin	275	282	62	54	13,230	13,739	5,027	4,476	7,801	8,815	400	448	92	123	8	5	100	128	66	85	4	3	70	88
E. N. Central	3,360	3,270	247	222	66,686	68,603	22,800	20,741	42,387	46,146	1,649	1,716	453	485	97	132	550	617	291	317	67	93	358	410
Minnesota	961	987	68	61	21,369	21,185	7,133	5,207	13,975	15,652	261	326	345	470	85	105	430	575	280	380	65	80	345	460
Iowa	1,554	1,613	76	71	27,536	28,565	7,267	6,250	19,857	21,843	410	472	186	202	10	23	196	225	134	148	6	14	140	162
Missouri	869	910	113	98	13,813	13,783	4,203	3,825	9,008	9,458	602	500	205	178	21	21	226	199	140	124	18	18	158	142
North Dakota	669	673	68	63	3,609	3,668	1,299	1,011	2,180	2,333	130	144	37	41	1	1	38	42	21	22	..	..	21	22
South Dakota	1,304	1,592	67	62	8,489	9,008	2,609	2,348	5,653	6,444	227	216	54	67	2	6	56	73	8	11	1	2	9	13
Nebraska	759	784	73	67	11,079	11,372	3,263	2,806	7,374	8,111	442	455	58	65	2	2	60	67	34	38	1	1	35	39
Kansas	704	883	68	60	10,066	10,329	3,761	3,159	5,859	6,679	446	491	43	47	4	5	47	52	29	32	3	3	32	35
W. N. Central	7,020	7,442	533	482	95,959	97,810	29,535	24,686	63,906	70,520	2,518	2,604	928	1,070	125	163	1,053	1,233	646	755	94	118	740	873
Delaware	5	6	3	3	820	773	264	253	516	485	40	35	5	5	..	..	5	5	3	3	..	..	3	3
Maryland	52	47	16	14	2,687	2,751	919	818	1,653	1,818	115	115	17	18	2	1	19	19	11	12	1	1	12	13
Virginia	333	360	102	91	5,742	6,023	2,032	1,748	3,307	3,836	403	439	119	104	179	224	298	328	90	83	138	179	228	262
West Virginia	295	289	49	44	2,578	2,599	1,093	1,060	1,385	1,454	100	85	18	18	35	40	53	58	9	9	18	21	27	30
North Carolina	61	71	198	176	13,418	14,146	4,628	4,767	7,453	7,975	1,337	1,404	94	89	3	2	97	91	49	47	2	1	51	48
South Carolina	14	13	93	84	4,106	4,714	1,508	1,644	2,259	2,711	339	359	76	71	5	4	81	75	59	54	4	3	63	57
Georgia	56	48	113	99	8,734	9,651	2,890	3,092	5,571	6,240	273	319	37	36	..	..	37	36	23	21	..	..	23	21
Florida	9	9	35	32	4,247	4,565	1,697	1,765	2,208	2,407	342	393	27	26	23	31	50	57	17	15	4	7	21	22
S. Atlantic	825	833	609	543	42,332	45,222	15,031	15,147	24,352	26,926	2,949	3,149	393	367	247	302	640	669	261	244	167	212	428	456
Kentucky	623	604	183	170	7,664	7,346	3,144	2,610	4,019	4,260	501	476	62	57	1	1	63	58	48	45	1	1	49	46
Tennessee	319	303	180	167	7,325	7,580	3,179	3,211	3,626	3,844	520	525	27	21	1	1	28	22	16	12	1	1	17	13
Alabama	83	70	130	117	6,179	6,965	2,574	2,651	3,170	3,836	435	478	22	21	18	9	40	30	16	13	7	4	23	17
Mississippi	110	100	198	170	5,212	5,367	2,088	2,340	2,358	2,547	466	480	51	54	5	6	56	60	29	32	4	5	33	37
Arkansas	69	64	109	88	4,303	5,056	1,771	1,901	2,234	2,904	292	251	30	39	40	40	130	129	47	46	17	17	64	63
Louisiana	95	83	109	93	3,275	3,385	1,213	1,225	1,632	1,730	430	430	27	21	4	2	31	23	19	14	2	1	21	15
Oklahoma	248	281	88	85	5,166	5,428	2,642	2,510	2,370	2,749	154	169	77	76	15	16	92	92	47	46	13	14	60	60
Texas	4,891	5,355	242	232	15,050	17,196	7,255	7,037	7,143	9,214	652	945	348	420	49	95	397	515	235	306	30	78	265	384
S. Central	6,438	6,860	1,234	1,122	54,174	58,323	24,172	23,485	26,552	31,084	3,450	3,754	704	759	133	170	837	929	457	514	75	121	532	635
Montana	1,722	1,786	88	88	1,484	1,505	443	470	989	979	52	56	6	4	..	..	6	4	3	3	..	..	3	3
Idaho	1,109	1,174	50	49	1,694	1,722	492	497	1,136	1,159	66	66	7	6	..	2	7	8	4	4	..	2	4	6
Wyoming	2,194	2,256	52	51	428	452	187	172	229	268	12	12	4	4	..	..	4	4	1	1	..	..	1	1
Colorado	1,756	1,829	69	67	1,829	1,876	836	736	950	1,092	43	48	22	28	2	2	24	30	8	8	..	..	8	8
New Mexico	1,214	1,295	60	60	793	776	366	359	382	378	45	39	6	6	..	..	6	6	4	4	..	..	4	4
Arizona	443	451	58	57	771	782	266	293	380	418	65	71	13	12	..	..	13	12	6	6	..	..	6	6
Utah	1,354	1,382	34	33	2,276	2,229	1,019	968	1,155	1,167	102	94	96	90	4	3	100	93	40	39	3	2	43	41
Nevada	434	421	20	19	122	140	42	46	75	79	15	15	..	..	..	..	..	..	..	..	..	..	..	..
Washington	274	283	34	33	5,480	5,864	1,843	2,009	3,387	3,590	250	265	92	99	6	6	98	105	54	63	3	3	57	66
Oregon	881	912	46	45	3,214	3,630	1,257	1,207	2,293	2,293	164	130	246	249	26	33	272	282	206	185	16	21	222	206
California	1,866	1,893	71	70	29,277	31,397	9,006	9,456	15,898	16,693	4,373	5,248	1,530	1,474	18	28	1,548	1,502	827	761	15	22	842	783
Western	13,247	13,682	582	572	47,818	50,373	16,757	16,213	26,874	28,116	5,187	6,044	2,021	1,962	56	74	2,077	2,036	1,153	1,074	37	50	1,190	1,124
U. S.	31,337	32,644	3,354	3,079	370,884	383,257	127,891	119,565	224,619	243,829	18,374	19,863	4,856	4,995	686	866	5,542	5,861	2,960	3,057	450	602	3,410	3,659

*Does not include commercial broilers. **Does not include turkey fryers.

State	CATTLE AND CALVES All cattle and calves		KEPT FOR MILK Cows 2 yrs. and older		KEPT FOR MILK Heifers 1 to 2 yrs.		KEPT FOR MILK —Heifer calves		OTHER Cows 2 yrs. and older		OTHER Heifers 1 to 2 yrs.		OTHER —Calves—		OTHER Steers 1 yr. and older		OTHER Bulls 1 yr. and older		HOGS AND PIGS —Total—		HOGS AND PIGS Under six months		HOGS AND PIGS Six months and over —Sows— and gilts		HOGS AND PIGS Six months and over —Others—	
	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959	1958	1959
Maine	200	192	110	104	33	31	32	31	8	9	3	3	6	6	4	4	4	4	19	20	10	11	3	3	6	6
N. H.	102	97	62	58	16	15	16	16	2	2	1	1	2	2	1	1	2	2	12	13	7	8	2	2	3	3
Vermont	432	423	294	285	57	56	61	63	4	4	2	2	4	4	2	2	8	7	11	11	6	7	2	2	3	2
Mass.	159	156	108	106	20	19	21	21	2	2	2	2	2	2	2	2	2	2	144	148	75	76	15	15	54	57
R. I.	23	22	17	17	2	3	2	2	..	..	..	..	..	..	..	..	..	..	11	11	6	6	1	1	4	4
Conn.	160	155	108	103	22	20	20	22	2	2	1	1	2	2	2	2	3	3	22	22	12	13	2	2	8	7
N. Y.	2,175	2,153	1,438	1,409	303	299	306	310	35	39	6	8	26	28	30	30	31	30	126	129	85	89	19	20	22	20
N. J.	217	213	149	148	24	23	24	25	5	4	2	2	5	5	4	3	4	3	172	173	100	90	19	18	73	65
Pa.	1,858	1,877	1,039	1,039	238	246	256	259	76	83	30	36	43	43	148	143	28	28	513	508	346	348	66	69	101	91
N. Atl.	5,326	5,288	3,325	3,269	715	711	739	749	134	145	47	55	90	92	193	187	83	80	1,050	1,035	647	648	129	132	274	255
Ohio	2,344	2,367	893	857	204	204	218	215	232	237	93	116	389	400	282	309	33	29	2,479	2,628	1,942	2,087	372	401	165	140
Ind.	2,172	2,107	559	531	130	123	138	135	339	337	141	155	519	492	322	312	24	22	4,253	4,848	3,305	3,800	578	625	370	423
Ill.	4,021	4,061	807	783	217	227	265	261	613	615	229	248	977	991	869	893	44	43	6,345	7,106	4,378	4,970	1,012	1,113	955	1,023
Mich.	1,811	1,829	845	820	237	238	250	261	92	99	69	71	167	176	127	144	24	20	642	719	464	551	101	112	77	56
Wis.	4,212	4,254	2,501	2,501	614	621	640	647	96	106	64	81	87	106	154	141	56	51	1,699	1,801	1,112	1,234	354	361	233	206
E. N. C.	14,560	14,618	5,605	5,492	1,402	1,413	1,511	1,519	1,372	1,394	596	671	2,139	2,165	1,754	1,799	181	165	15,418	17,102	11,201	12,642	2,417	2,612	1,800	1,848
Minn.	3,857	3,973	1,511	1,451	440	421	436	429	270	298	147	177	602	711	401	441	58	45	3,233	3,815	1,896	2,400	618	694	719	721
Iowa	6,285	6,536	1,056	1,035	239	248	264	265	886	949	453	484	1,980	2,127	1,332	1,356	75	72	10,994	12,533	6,552	7,808	1,847	2,055	2,595	2,670
Mo.	3,866	4,098	845	811	185	193	208	197	989	1,119	178	230	901	955	491	520	69	73	3,410	3,956	2,428	2,877	549	621	433	458
N. Dak.	1,870	1,870	374	352	83	79	103	101	600	628	127	138	452	447	92	86	39	39	350	410	77	115	101	111	172	184
S. Dak.	3,230	3,392	325	306	72	71	121	122	1,205	1,269	223	267	898	950	316	336	70	71	1,243	1,591	403	610	318	366	522	615
Neb.	4,630	4,961	424	392	102	98	113	107	1,395	1,480	414	454	1,438	1,522	673	837	71	71	2,044	2,453	1,090	1,350	405	450	549	653
Kansas	3,961	4,476	464	441	103	105	120	130	1,062	1,137	289	372	1,272	1,477	593	752	58	62	840	1,067	570	746	140	165	130	156
W. N. C.	27,699	29,306	4,999	4,788	1,224	1,215	1,365	1,351	6,407	6,880	1,831	2,122	7,543	8,189	3,898	4,328	432	433	22,114	25,826	13,016	15,906	3,978	4,462	5,120	5,457
N. C.	42,259	43,924	10,604	10,280	2,626	2,628	2,876	2,870	7,779	8,274	2,427	2,793	9,682	10,354	5,652	6,127	613	598	37,532	42,927	24,217	28,548	6,395	7,074	6,920	7,305
Del.	65	65	34	33	8	8	8	9	7	7	1	1	3	3	2	2	2	2	34	33	23	23	5	5	6	5
Md.	514	529	248	243	54	53	54	56	58	59	19	25	34	32	37	51	10	10	199	195	143	139	26	28	30	28
Va.	1,327	1,367	418	410	85	89	103	102	322	322	72	85	188	204	116	130	23	23	677	670	475	490	93	93	109	87
W. Va.	546	541	191	180	34	33	36	36	125	128	33	36	73	74	45	43	9	9	106	110	68	75	14	16	24	19
N. C.	984	1,014	379	375	84	86	94	96	206	223	63	74	102	103	38	40	18	17	1,406	1,490	876	937	213	244	317	309
S. C.	626	613	171	159	37	36	42	40	180	182	50	56	99	94	27	27	20	19	534	550	318	346	77	87	139	117
Georgia	1,546	1,515	326	313	84	85	96	97	512	520	128	130	280	258	83	76	37	36	1,695	1,780	1,120	1,215	255	275	320	290
Florida	1,934	2,011	223	234	75	76	81	81	815	865	147	161	274	266	267	276	52	52	395	434	229	275	72	78	94	81
S. Atl.	7,542	7,655	1,990	1,947	461	466	514	517	2,225	2,306	513	568	1,053	1,038	615	645	171	168	5,046	5,262	3,252	3,500	755	826	1,039	936
Ky.	1,807	1,843	641	628	115	120	126	126	325	367	99	120	289	304	183	149	29	29	1,189	1,225	857	883	168	180	164	162
Tenn.	1,736	1,753	654	628	127	125	140	147	349	365	109	126	243	249	85	84	29	29	1,159	1,182	783	816	174	196	202	170
Ala.	1,816	1,816	376	376	107	107	136	136	672	683	113	120	280	272	102	93	30	29	930	930	633	654	145	153	152	123
Miss.	2,487	2,363	558	519	129	128	142	128	915	912	206	203	388	348	109	87	40	38	764	741	387	423	98	115	279	203
Ark.	1,523	1,493	343	326	84	84	105	105	527	513	100	110	257	251	76	73	31	31	394	406	249	270	60	73	85	63
La.	1,883	1,808	346	321	77	74	88	84	853	839	178	175	257	237	47	42	38	36	381	377	218	229	53	64	110	84
Okla.	2,958	3,313	385	370	90	89	139	142	1,192	1,292	219	282	662	797	218	282	53	59	347	458	242	343	59	81	46	34
Texas	7,736	8,510	799	735	180	177	198	196	3,604	3,948	541	681	1,729	2,058	492	511	193	204	908	1,226	596	811	135	189	177	226
S. C.	21,946	22,899	4,101	3,903	909	904	1,074	1,064	8,437	8,919	1,565	1,817	4,105	4,516	1,312	1,321	443	455	6,072	6,545	3,965	4,429	892	1,051	1,215	1,065
Mont.	2,247	2,269	97	94	21	20	29	29	1,105	1,116	187	215	645	635	112	108	51	52	113	147	66	91	20	30	27	26
Idaho	1,360	1,414	2	2	..	..	68	69	374	389	104	110	305	323	151	163	22	23	103	119	66	78	16	20	21	21
Wyo.	1,140	1,140	41	40	10	10	11	11	511	522	95	111	368	339	80	83	24	24	34	44	17	23	5	6	12	15
Colo.	1,979	2,159	153	147	38	39	49	50	704	754	285	297	520	578	198	248	42	46	170	221	101	130	25	36	44	55
N. Mex.	1,056	1,162	50	54	9	10	12	13	531	622	84	102	261	286	37	52	22	23	35	36	22	22	5	6	8	8
Ariz.	943	971	52	53	15	16	17	18	367	373	92	78	190	217	191	197	10	19	34	35	20	20	4	4	10	11
Utah	706	720	112	112	28	29	31	34	241	248	63	68	145	148	71	71	10	10	80	83	54	50	9	11	17	22
Nev.	595	597	17	18	9	9	10	11	294	297	68	65	143	138	31	46	13	13	18	21	10	12	3	3	5	6
Wash.	1,111	1,178	289	286	70	70	83	82	234	255	83	86	239	257	91	118	22	24	116	140	86	105	18	22	12	13
Oregon	1,412	1,497	219	215	58	61	72	81	469	537	124	129	300	334	119	106	31	34	135	170	100	129	21	28	14	13
Calif.	3,738	3,978	945	945	254	261	276	293	809	827	326	328	444	503	602	739	82	82	442	416	238	245	58	58	146	113
Western	16,277	17,085	2,213	2,207	586	600	680	711	5,712	5,940	1,511	1,589	3,561	3,755	1,676	1,933	338	350	1,280	1,432	780	905	184	224	316	303
U. S.	93,350	96,851	22,233	21,606	5,297	5,309	5,883	5,911	24,287	25,584	6,063	6,822	18,491	19,755	9,448	10,213	1,648	1,651	50,980	57,201	32,861	38,030	8,355	9,307	9,764	9,864

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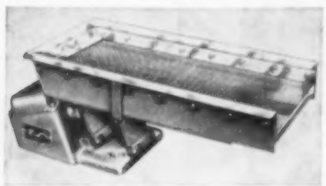
DESCRIPTIONS OF NEW AND IMPROVED PRODUCTS AND SERVICES PROVIDED BY MANUFACTURERS AND SUPPLIERS ARE PRESENTED IN BRIEF FORM. FOR ADDITIONAL INFORMATION, PLEASE USE THE ACCOMPANYING COUPON.

No. 7420—Screening Feeder

Development of a small, highspeed screening feeder for rate-controlled simultaneous screening and feeding of powders or other fine bulk materials in relatively small quantities has been announced by Syntron Co. Electromagnetically vibrated, the SF-01 Screening Feeder provides particle



agitation to effect the rapid separation of particles by size and to provide positive, lag-free feeding of the sized or separated particles into the next processing operation, the company said. Power of vibration is adjustable by a turn of a rheostat dial on the unit's separate controller, which can be mounted at any distance from the screening feeder. Check No. 7420 on the coupon and mail for details.

No. 7422—Plant Planning Article

The availability of a technical 8-page illustrated article presenting factors involved in planning a commercial feed mill has been announced by Sprout, Waldron & Co., Inc. Called Bulletin F-31, it covers basic considerations involved in the formulas, raw materials, materials handling and processing, additions of molasses and fat, design of the building and methods for distributing the product. Diagrammatic flow charts of a 45-ton per hour mill, a 30-ton per hour mill and a one-story modern feed plant featuring pneumatic materials handling are included along with illustrations of different types of feed mills, the company said. Check No. 7422 on the coupon and mail for details.

No. 7418—Bovine Mastitis Information

"Introduction to Bovine Mastitis" is the title of a technical data bulletin recently released by Chas. Pfizer & Co., Inc. Included in the bulletin are chapters on definition, incidence, economic losses, types of mastitis, causes of mastitis, principles, methods of treatment and others. One section deals with "New Liquid Terramycin for Mastitis." Charts, graphs and tables are used to supplement the text. For copies, check No. 7418 on the coupon and mail to this publication.

No. 7416—Automatic Batching Device

The Howe Scale Co. has announced construction of a new automatic

batching system. The system uses a formula control component called the Howe "Batchplug," which provides instant formula changing while eliminating any human error, company literature said. Each standard Batchplug is a self-contained formula which provides preset control for up to 10 ingredients per formula. The Batchplug is about the size of a pack of cigarettes, and each one has an individual nameplate for identification, the company said. A rack is available for holding several Batchplugs where a plant uses a number of different formulas. A small screwdriver is the only tool required to set the unit for proper control over any batching operation. Check No. 7416 on the coupon and mail for details.

No. 7421—Supplement Hog Feeder

A supplement hog feeder has been announced by Brower Manufacturing Co. Designed for feeding minerals and supplements to large herds or as a self-feeder for small lots, the feeder has heavy brackets for attachment to wall, partition or fence. The feeder is also recommended for the farrowing house, both before and after farrowing, company literature said. Self-closing lids eliminate feed losses from moisture, rodents and birds, the company said, and they can be easily raised by the smallest pigs. All feeds flow freely. Feed flow can be adjusted for all types of feeds and hogs of different ages. The feeder capacity is 5 bu. Details are available by checking No. 7421 on the coupon and mailing.

No. 7419—"Vibratory" Feeder

Eriez Manufacturing Co. announces the "Hi-Vi Vibratory Feeder" model V3B-70A, with a capacity rated at 50

tons an hour. The design of the unit incorporates the construction features of a smaller Eriez feeder, the company said. Included among the fea-

Send me information on the items marked:

- ☐ No. 7416—Automatic Batching Device
- ☐ No. 7418—Bovine Mastitis Information
- ☐ No. 7419—"Vibratory" Feeder
- ☐ No. 7420—Screening Feeder
- ☐ No. 7421—Supplement Hog Feeder
- ☐ No. 7422—Plant Planning Article

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tures are the Eriez electro-permanent magnetic drive system which operates directly from alternating current without a rectifier and the Eriez spring system of epoxy-boned fibreglass. The unit feeds bulk materials in a wide range of particle sizes, the company says, and can be adapted to spreading, drying or agitating materials, handling hot materials, or moving materials into hot areas at a precise rate. Complete details are available by checking No. 7419 on the coupon and mailing.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.

No. 7352—Data sheet on rail car, General American Transportation Corp.

No. 7353—Moisture balance, Central Scientific Co.

No. 7354—Mastitis treatment, Chas. Pfizer & Co.

No. 7355—Story on plant layout, Sprout, Waldron & Co., Inc.

No. 7356—Sow farrowing stall, Bel Echo Manufacturing Co.

No. 7357—Corrugated grain bins, Butler Manufacturing Co.

No. 7358—New products folder, Prater Pulverizer Co.

No. 7360—Bag weigher-filler, Bemis Bro. Bag Co.

No. 7361—Conveyor system, Wyatt

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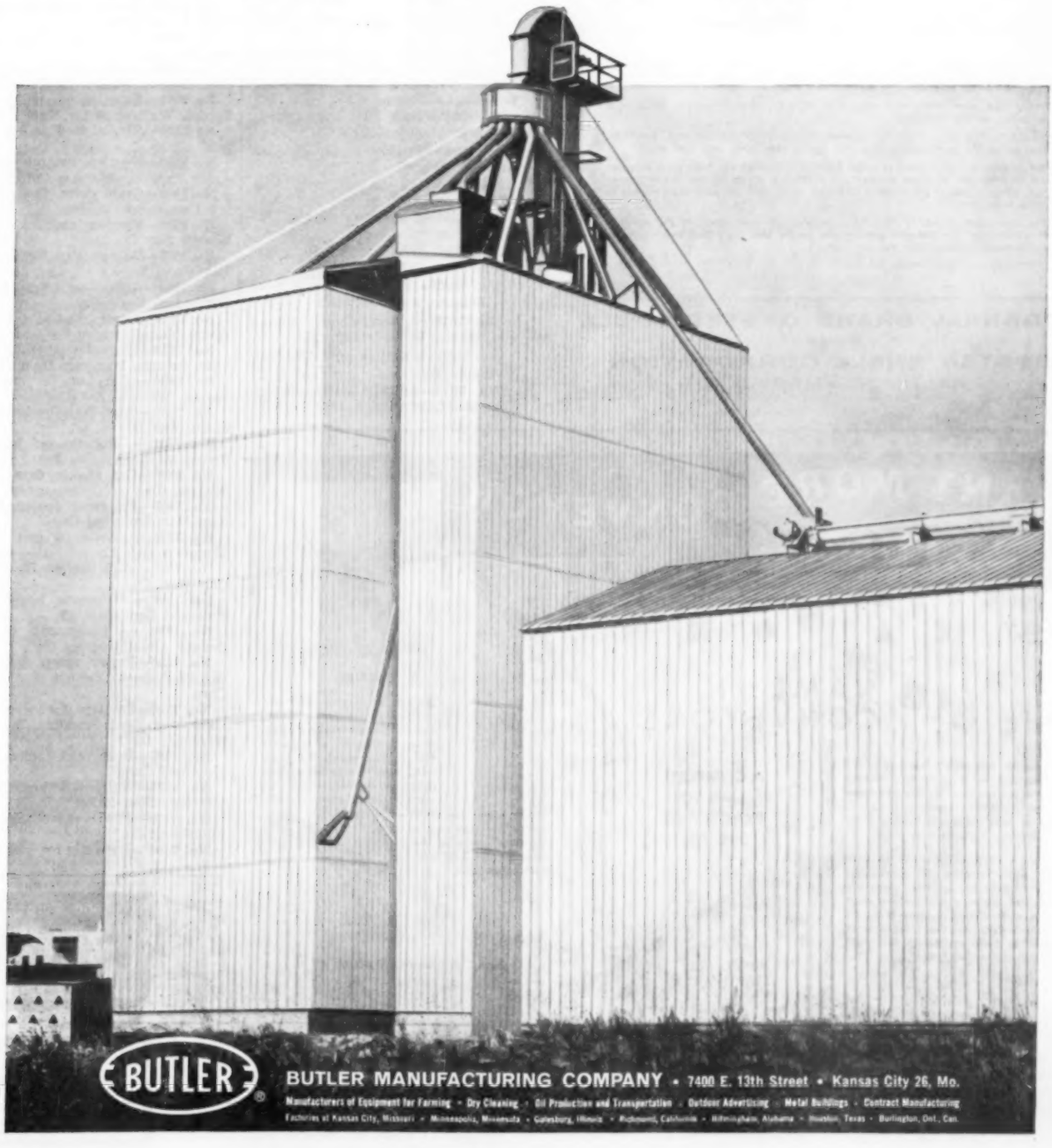

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"Pretty tricky of us hens, I'd say."

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SERENADE FOR FEED MEN—Howard Riley (left), Riley Feed Co., Kansas City, and Larry Hauskins, Nutrena Mills, Minneapolis, are shown with their wives as they were serenaded recently at the Jaragua Hotel, Ciudad Trujillo, during a recent 14-day cruise to the West Indies.

Manufacturing Co., Inc.

No. 7362—Control panel, Richardson Scale Co.

No. 7363—Live poult display, Western Condensing Co.

No. 2985—Moisture balance, Seedburo Equipment Co.

No. 7364—Dog food ingredient, Western Condensing Co.

No. 7365—Bulk feed body, North American Manufacturing Co.

No. 7366—Poultry supply catalog, Anderson Box Co.

No. 7367—All-purpose litter, the Bares Co.

No. 7368—Bagging, weighing machine, Finco, Inc.

No. 7369—Semi-bulk handling system, Powell Pressed Steel Co.

No. 7370—Blackhead medication, Dr. Salsbury's Laboratories.

No. 7371 — Herringbone milking stall, James Manufacturing Co.

No. 7372—Injectible iron, American Cyanamid Co.

No. 7373—Animal health display, Bingman Laboratories, Inc.

No. 7374—Bulk hog feeder, Leach Manufacturing Co.

No. 7375—Control for hammermills, Schutte Pulverizer Co.

No. 7376—Bag packer, Bemis Bro. Bag Co.

No. 7377 — Pneumatic conveyor data, Sprout, Waldron & Co., Inc.

No. 8378—Bulletin on pulleys, Sprout, Waldron & Co., Inc.

No. 7379—Mobile feed mill, Seco, Inc.

No. 7380—Scoop control switch, Alden division, Amercon Corp.

No. 7381—Grain drier, Grain Drying Equipment Co., Inc.

No. 7382—Flexible coupling, T. B. Wood's Son Co.

No. 7383—Bag packer, Bemis Bro. Bag Co.

No. 7384—Automatic bag ejector, Richardson Scale Co.

No. 7385—Auger cattle feeder, James Manufacturing Co.

No. 7359—Magnetic separator bulletin, Stearns Magnetic Products.

No. 7386 — Data on fat addition, Sprout, Waldron & Co., Inc.

No. 7387—Coccidiosis book, Merck & Co., Inc.

No. 7388 — Bulletin on blowers, Young Machinery Co., Inc.

No. 7389—Car shaker data sheet, Syntron Co.

No. 7390—Pig creep feeder, Moorman Manufacturing Co.

No. 7391 — Movie on grit, Stone Mountain Grit Co.

No. 7392—Wall banner, Blatchford Calf Meal Co.

No. 7393 — Automatic hog feeder, Precision Equipment Co.

No. 7394 — Equipment catalog, Brower Manufacturing Co.

No. 7395—Power scoop data, Alden Equipment Division of Amercon Corp.

No. 7396—Poultry disease control, Associated Feed Products, Inc., and Naremco, Inc.

No. 7397—Bulk feed tanks, Agri-Tec Steel Corp.

No. 7398—Nutrient level card, Peter Hand Foundation.

No. 7399—Power shovel, Seedburo Equipment Co.

No. 7400 — Poultry pesticides,

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No. 7402—Bulletin on motor starters, Richardson Scale Co.

No. 7403 — Elevator equipment, Munson Mill Machinery Co.

No. 7404—Grain storage building, Stran-Steel Corp.

No. 7405—Silo counter display, Flavor Corporation of America.

No. 7406—Laboratory service data, Wisconsin Alumni Research Foundation.

No. 7407—Grain conveyor, cleaner, Dunbar-Kapple, Inc.

No. 7408—Air delivery feeder, Ripco Air Systems.

No. 7409 — High speed "Checkweigher," Thayer Scale Corp.

No. 7410—Feeder valve bulletin, Sprout, Waldron & Co., Inc.

No. 7411—Silage activator, Biochemical Corp.

No. 7412—Portable pasture waterers, Starline, Inc., and H. D. Hudson Manufacturing Co., distributors.

No. 7413—Multi-use feed wagon, Brower Manufacturing Co.

No. 7414—Poultry raising manual, Earl W. Garrison, Inc.

No. 7415—Feed mill, Shelby Manufacturing Co.

Poultry Feed Tonnage Estimated in Indiana

LAFAYETTE, IND.—Poultry produced in Indiana consumed 830,418 tons of feed during 1958, according to a report from Purdue University. About half of the total was mash and half grains.

Prof. Melvin L. Wilson, extension poultryman at Purdue, said the feed tonnage was computed from production figures released by the Crop Reporting Board and the recommended feed requirements published by the American Feed Manufacturers Assn.

Prof. Wilson pointed out that the 1958 record broiler crop in Indiana consumed about 175,157 tons of feed. Light breed turkeys ate 8,085 tons, while the heavy breeds ate 92,600 tons. Layers on farms at the close of the year consumed approximately 554,576 tons of feed.

Antibiotic Studied For Poultry Disease

NEW YORK—An antibiotic is being studied for its effectiveness in control of poultry diseases by Dr. E. H. Peterson, poultry pathologist, University of Arkansas, who will work also with professional poultrymen to help solve the various disease problems which they encounter under a normal poultry operation.

Dr. Peterson's major interest in these studies is to find practical methods for increasing the effectiveness of Aureomycin against specific diseases of poultry. His work will be covered under a grant awarded to the University of Arkansas by American Cyanamid Co., New York.

MEMPHIS BROKERS MOVE

MEMPHIS, TENN.—The Memphis office of Francis I. du Pont & Co., commodity and stock brokerage firm, has moved to new and larger quarters at 22 S. 2nd St. The company formerly was located in the Memphis Cotton Exchange Building. George L. Boyce is Memphis manager.

Make Your Customers
GOOD Customers... all year 'round

SUPREME Brand
Condensed BUTTERMILK

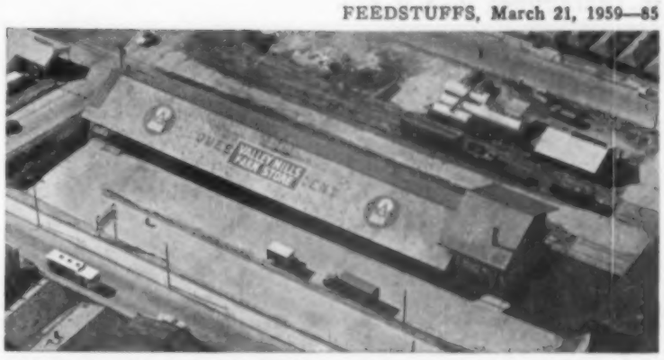
HERBERT K. CLOFINE, Inc.
MILK PRODUCTS
315 South Smedley St. Phila. 3, Pa.

Dr. J. C. Shaw Now With FAO in Rome

ROME, ITALY—Dr. J. C. Shaw, formerly with the dairy husbandry department, University of Maryland, is now on the staff of the Food and Agriculture Organization (FAO) of the United Nations at FAO headquarters in Rome.

FAO is a world-wide organization with 76 member countries. It was organized 14 years ago. Its purposes are: (1) To help nations raise their standards of living; (2) improve nutrition of the peoples of all countries; (3) increase the efficiency of farming, forestry and fisheries; (4) better the conditions of rural people, and (5) through the above means, widen the opportunity of all people for productive work.

Dr. Shaw is chief of the Animal Production Branch, Animal Production and Health Division of FAO.



VALLEY MILLS BUYS WAREHOUSE—Valley Mills, Vicksburg, Miss., has announced the purchase of the Keith Williams Universal warehouse in Vicksburg. The building is shown in the center of the picture above. It has been operated for several years under the management of H. P. McKeowan for the distribution of formula feeds in the Vicksburg area. Valley Mills will operate the facility as a farm store and distribution center for several counties in Mississippi and parishes in Louisiana. Mr. McKeowan will continue as manager. Located in downtown Vicksburg and on the Illinois Central Railway, the building will provide over 12,000 sq. ft. of space for the storage of feeds and sacked ingredients.

Always in demand for its quality

SPENCER KELLOGG'S OLD PROCESS LINSEED OIL MEAL

Year after year the demand for Kellogg's famous Old Process Linseed Oil Meal continues. Livestock feeders know from experience that it pays them to use this extra effective conditioner.

SPENCER KELLOGG MEAL SALES OFFICES ARE LOCATED AT:

Bellevue 2-8201	Des Moines CH 4-7291
Buffalo CL 5850	Long Beach HE 2-4954
Chicago FR 2-3437	Minneapolis FE 5-4221
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KELLOGG'S THE TEST TELLS 1894

SPENCER KELLOGG AND SONS, INC.
BUFFALO 5, N. Y.

Spencer Kellogg Mills are located at: EDGEWATER, N. J. • BELLEVUE, OHIO • CHICAGO, ILL. • DECATUR, ILL. MINNEAPOLIS, MINN. • DES MOINES, IOWA • EL CENTRO, CALIF. • LONG BEACH, CALIF.

Complete facilities for both truck and rail shipments

Feed Control Comment

By BRUCE POUNDSTONE

Secretary, Association of American Feed Control Officials

Kentucky Agricultural Experiment Station, Lexington

EDITOR'S NOTE: Mr. Poundstone will be happy to answer any questions relative to feed control. Feed men who have questions should send them to: Feed Control Comment, Feedstuffs, P.O. Box 67, Minneapolis 40, Minn., and they will be passed on to Mr. Poundstone.

Ingredient Names, Terms

Ingredient manufacturers and distributors may refer to some products in advertising and in other literature by names that are not defined by the Association of American Feed Control Officials. Some of these names may be patented.

The following are given as examples of names noted recently in advertisements: Soy Cake-lets, Corn Kiblets Expanded Kibbled, Soybran Flakes, Wheat Kiblets, Hi-Pro-Lac and Toasted Soybean Hulls. Such names, of course, are not to be used in an ingredient list.

A manufacturer or supplier of ingredients is privileged to describe his products in a manner that will help him distinguish them from other products. In doing so it would be helpful if it is done in a way that will not confuse the ingredient buyer. Such confusion may result in a mislabeled or a seriously misbranded product. Recently a shipment of several tons of a poultry feed in a midwestern state was condemned because of excessive fiber content. The feed manufacturer had used a product described as soybean flakes which he thought represented a flaked soybean oil meal. He was using a product that was in part, if not all, soybean hulls.

Appearance of names as quoted above can lead to confusion. A distributor or manufacturer using such terms should be careful to indicate to the purchaser what the accepted ingredient nomenclature is. This will result in clear labeling to the ultimate consumer and also exactly identify the product to the feed manufacturer.

Boron Compound in Feeds

Tests by the poultry husbandry department, Alabama Polytechnic Institute, and by other experiment stations have shown that Polybor-3 (disodium octoborate tetrahydrate) can be mixed in poultry feeds to control flies in manure. Alabama Polytechnic Institute has two publications on this subject, namely, Progress Report Series No. 71, December, 1958, and Highlights of Agricultural Research, Volume 5, No. 2, 1958, in which results of their experiments are given. Although the practice apparently is effective insofar as the control of flies is concerned, it cannot be recommended for commercial use. Boron in feeds to control flies in manure has not been approved by the Food & Drug Administration.

The FDA, after reviewing the data, concluded that the use of Polybor-3 in poultry feeds for the purposes indicated is not a drug use which would make it subject to the new drug provisions of the Federal Food, Drug and Cosmetic Act, but would be a food additive and subject to the recently enacted Food Additives Amendment. The data submitted show that the use of this preparation according to directions results in appreciable increase of boron in eggs and meat of poultry.

While it is recognized that boron is a normal constituent of many foods, it is not concluded that this increase in the flesh and eggs of poultry would be one generally recognized by appropriately qualified experts as safe for use as a food for human consumption. Neither can it be concluded that Polybor-3 would be safe as a component of feed for poultry. Additional information with a petition for tolerance must be submitted before consideration can be given to granting a tolerance under the Food Additives Amendment.

Official Policy of AAFCO

The Model Feed Bill appeared for the first time in the 1958 issue of the annual publication of the Association of American Feed Control Officials. Previous to that time it was printed in pamphlet form.

Realizing the need for drawing attention to uniformity in rules and regulations based upon laws following the pattern of the Model Feed Bill, items in the annual publication formerly listed as "Regulations and Resolutions" were combined into a new section "Rules and Regulations." This also appeared for the first time in the 1958 publication.

The following statement appears near the heading of the Model Feed Bill: "Prepared and approved by the Association of American Feed Control Officials and the American Feed Manufacturers Assn."

Legal authorities questioned whether or not the annual publication could be interpreted as the policy of the association represented. To clear up any questions of this nature the following note appears on page 11 of the 1959 publication: "Although this bill and the regulations have not been passed as a law in all of the states, the subject matter covered herein does represent the official policy of the association." This should leave no doubt on this point.

FIRE DESTROYS MILL

ATTICA, IND.—A feed mill and warehouse here were destroyed by fire recently. The owner, Asher Rooth, said the damage would total more than $100,000. Cause of the fire has not been determined.

When you examine the facts... you can't beat a "WINONA" Bucket!

TAPERED SIDES PERMIT NESTING TO ECONOMIZE STORAGE AND SHIPPING.
PROPERLY LOCATED BOLT HOLES ASSURE PERFECT LOADING AND DISCHARGE.
HIGH TAPERED SIDES PROVIDE SCOOP ACTION WHEN LOADING AND AVOID SPILLAGE.
ROUNDED BOTTOM MAKES FOR FAST, CLEAN DISCHARGE AND ELIMINATES CUTTING OF BELT.
PROJECTION-WELDED, SERRATED FLANGES PROVIDE MAXIMUM STRENGTH AT CRITICAL LOCATIONS.
CORRECTLY POSITIONED LIP FOR SMOOTH PICK-UP AND EFFECTIVE DISCHARGE.
WINONA

With over 25 years of research behind the "Winona," you can count on high speed performance, or you can operate at low speed, with close spacing and get equally successful results.

It's true—the "Winona" Grain Elevator Bucket gives you advantages which you have desired but have not been able to obtain. It is the finest "all-around" Bucket you can buy—superior in design, construction and operation.

If you operate high speed elevators you will obtain the desired capacity without overworking the legs, or, if you operate at slow speed, with buckets closely spaced, you will obtain astonishing results.

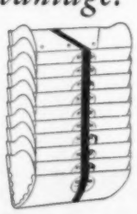
We are proud to have perfected the "Winona" with its improved pick-up and greater load-carrying ability without troublesome back-leg loss.

Equip your elevator with "Winona's" and compare the results. You will be a booster after your initial installation.

Another Big Advantage!

TAPERED SIDES PERMIT NESTING

"Winona" Buckets in 4 x 3 size are banded in 20's. Larger sizes are in lots of 10. Imagine the saving in shipping and warehousing!



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724 HOFFMAN STREET • HAMMOND, INDIANA
WINONA, MISSISSIPPI — SANTA CLARA, CALIFORNIA
ENGINEERS — HAMMOND PRODUCTS — MANUFACTURERS
TRADE MARK REG. U.S. PAT. OFFICE

WRITE FOR BROCHURE WB-357
"Winona" Buckets are stocked by our warehouse distributors, also at our factory branch stores. Consult your dealer.

FISH MEAL • FISH SOLUBLES
LIVER MEAL—VITAMIN OILS
FEATHER MEAL—FEED INGREDIENTS
ALBUMINA SUPPLY CO., INC.
82 Beaver St., New York 5, N. Y.

"Where in the whole world..."

Where in the whole world would you like most to live?

Well, son, you'll get a lot of answers to a question like that. Most of them pretty good answers, too.

Let's think about it for a moment.

Start with right now—today. You're living on a farm. And some places seem a mighty long distance away.

But they're not, actually. Because just about every one of those places there on your map represents *people*—lots and lots of them. And the number of people is increasing—almost every *second* of every day! There are more children being born now than ever before. And the population experts are predicting an increase for this country of over 50 million people by 1975—and a world increase of over 800 million by the year 1999!

Makes you wonder how there will be enough food, homes and clothing to take care of all those extra people, doesn't it?

Well, for one thing, the crops and animals you're helping your Mom and Dad raise now are already serving a lot of people in a lot of different ways. And in the future your farm will be many, many times more important to this country and to the whole world.

More people and more industries will be wanting farm products. And that means the challenge to farmers when you're grown up will be greater than ever in history.

But ask yourself: where else could there be such unlimited opportunity for the man who has prepared himself to keep in step with progress?

So you see, son, your farm and its crops and animals are a mighty close and important link between you and all those places on your map. They just won't ever be able to exist without you.

Think about the farm. It has a great future. So have you.

* * * * *

Yes, we at Cargill have a lot of faith in this boy, and the thousands of farm boys like him.

In our 93 years as a Creative Processor of farm products, we've seen a great many farm youngsters grow up, then watched their sons—and then *theirs*—stay with the land.

This particular boy may seem like any other. And in most ways, he is. But somehow, we feel he's a little *extra* special.

He already knows many of the secrets of running a farm successfully. When he is graduated from high school, he'll have had ten years of practical working experience behind him. To us, that makes today's farm boy one of tomorrow's most valuable assets to this country. He's the man to whom we at Cargill are looking to lead the farmer-processor team into a bright, new field of opportunity.

Cargill
CREATIVE PROCESSING

93 Years of Creative Processing of Farm Products

CARGILL

UP OR DOWN

By Dr. Leonard W. Schruben, Agricultural Economist, Kansas State College

Corn Prices

Beginning with the 1959 crop there will be only the one basic support price announced at a minimum $1.12 bu. This marks a change from past policy.

Some confusion has existed in the corn market for several years because of the different levels of price supports. We have had two levels of price support for the commercial area, and a third which applied to farmers in noncommercial corn counties. Different prices became effective under different conditions. In addition to the different price support rates, there has been different rates for corn sold by the government.

This multiple loan rate, effective for the 1958 crop, will affect the market until October, 1959. Since feed men buy and sell corn, it will be well for you to become familiar with different price support levels as well as market price prospects.

The accompanying Exhibit 1 indicates several pricing situations for corn and shows support rates and the U.S. farm price since October, 1957. Don't let its appearance scare you. It is easily understood, although the corn market itself is complicated.

Reading from top to bottom, the first line pictures the over-all national commercial corn rate for those farmers who complied with the acreage allotment. For the 1958 crop this rate was $1.36. In recent years, growers in compliance with allotments have been in the minority.

The second dotted line indicates the loan rate in the commercial area for those who did not comply with the acreage allotment. For the 1958 crop this averaged $1.06 bu.

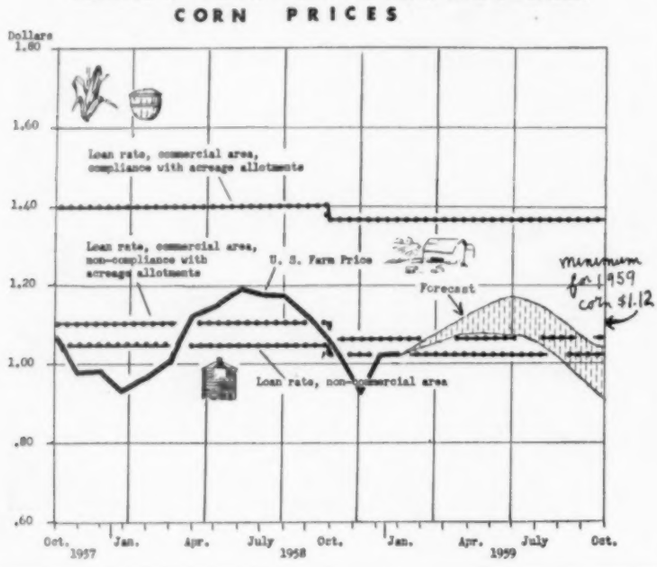
The third dotted line indicates the loan rate in non-commercial counties. All loan rates shown are gross. From these you need to deduct storage costs in order to get an idea of the net loan available to farmers.

The actual price received by farmers tends to fluctuate around the net loan rate. As you can see, prices have dropped below the loan rate during the harvest season in both 1957 and 1958 and have recovered during winter months.

There is indicated on Exhibit 1 a forecast of the most likely range of corn prices during the remainder of this season. It is the cross-hatch area labeled "forecast." Sorry, no guarantees that this forecast is to turn out to be correct are implied.

You will note that corn prices are expected to increase gradually between now and mid-summer, and then fall off again during the 1959 fall harvest season. This is a typical seasonal pattern for corn prices, except prices are not expected to advance as high above seasonal lows as usual this year. The level of prices next fall will be determined to a considerable extent by the size of crop and condition of the corn for storage when harvested.

EXHIBIT 1. Corn Prices and Loan Rates, With a Forecast



JOSEPH LYTTLE, JR., DIES

GREENWICH, N.Y.—Joseph Lyttle, Jr., owner and operator of Greenwich Milling Co. and mayor here for more than 20 years, died recently at his home here. The feed man was 74. Surviving are two brothers, William and Carroll.

ACCOUNT SETTLED — Credit and collections came in for a bit of spoofery at the recent Pay Way Feed Mills, Inc., convention held at Hotel President in Kansas City. In the scene above, Chet Hill, credit manager for the firm, is shown at left taking the drastic measure needed to settle accounts with "Dirty Dan Delinquent," the company's assistant sales manager, Dean Warnstaff. The two-day convention was attended by Pay Way dealers and their wives from a six-state area.

Confinement Feeding Increases in South

BLACKSBURG, VA.—An increasing interest in confinement feeding units for swine is being shown in Virginia, particularly in the southeast counties, according to R. M. Godsey, associate animal husbandman at Virginia Polytechnic Institute here.

Mr. Godsey said a recent survey shows that only 79 such units were in use before last year, but that 185 were built last year to give a total of 264. Another 247 are to be built this year. Of the total built in 1958, 135 were in nine southeastern Virginia counties, he said, with Southampton now leading the state in number of confinement units in use.

Names Representative

NEW YORK—Tote Systems, Inc., Beatrice, Neb., has named William Ryan, Modern Materials Handling Co., St. Louis, as manufacturer's representative for Tote's complete line of materials handling equipment. The firm manufactures the aluminum or steel Tote bin, which handles up to several tons of materials and acts in the capacity of a storage container, discharge hopper and shipping container.

Wenger's — NEW BULK UNLOADER FOR { Flat Bed Trucks—Economical / Mill to Farm Deliveries.

Handle both bagged and bulk feeds, (mash, pellets, crumbles, etc.) and whole grains in a single flat bed truck. Horizontal unloader recessed in floor of truck. Vertical boom is 7 feet high (extra height optional). 14 ft. unloading boom will rotate 360 degrees and may be elevated to 18 ft. above ground level with hydraulic hand pump furnished with unit. Entire unit is power driven from power take off. May be installed in your own shop.

Write for information giving dimensions and make of your truck bodies.

Wenger Mixer Mfg. Co.
SABETHA, KANSAS • PHONE 111

Standard of the Industry for Liquid Feed Mixing, Pelleting and Cooling Equipment.

WESTERN

LIVE YEAST CULTURES

For 28 Years a Proven and Dependable Source of

ENZYMES

FOR ACTION ON GRAINS
UNIDENTIFIED GROWTH FACTORS
NATURAL B COMPLEX VITAMINS

Better assimilation — Lower feed cost

VIABILITY GUARANTEED

These Active Factors Can Be Added to

YOUR FEEDS

At Little or No Extra Cost

You will be hearing more and more about Enzymes in nutrition. Why not have them in your feeds now?

Write

WESTERN YEAST COMPANY

Chillicothe Illinois

Are your growers

Color-Wise and Pound-Foolish?

The prime purpose of a coccidiostat is to prevent coxy... not to color combs and shanks

ANY coccidiostat combined with an arsenical can help give broilers bright shank and comb color...but *no* coccidiostat *can* give flocks better protection than they get with NiCarb.

Red combs and yellow shanks may mask Subclinical Infection...often concealing the breakthroughs inferior drugs simply *can't prevent*.

But NiCarb *can* and *does* prevent Subclinical Infection, almost completely...Subclinical Infections that depress weight gains and reduce feed conversion ratios.

NiCarb is the most effective drug you can add to your starter and grower rations to aid in the prevention of coccidiosis outbreaks in broiler and replacement flocks.

Just look at the record

...A large-scale *one-year* test of broiler production in the same house:

		NiCarb	Control	Coccidiostat B (containing an arsenical)	Advantage of NiCarb over Coccidiostat B
Efficacy as measured by	Av. wt. (lb.)	3.47	3.44	3.45	+.02
	Av. Point Spread	101	96	96*	+5
	Av. Coccidiosis Mortality (%)	.04	.52	.14	—.10
Color		natural	natural	bright	
Subclinical Infection and Intestinal Coccidiosis		practically eliminated	outbreaks	Subclinical Infection present...unnatural brightness of pigmentation makes early detection difficult	

*Note: The point spread for Coccidiostat B ranged from a high of 119 to a low of 49—when Subclinical Infection was noted as a result of the build-up of coccidial oocysts, under relatively humid conditions. During this same difficult period the point spread for flocks on NiCarb varied from a high of 121 to 96.

Also available for your use:

S.Q.®—the most effective treatment for coccidiosis outbreaks.

GlyCamide®—the best tolerated coccidiostat and most efficient in permitting top weight gains and feed conversion.

Now ready, the new Merck illustrated booklet, *"Coccidiosis and Poultry Management"* to help you and your servicemen emphasize the need for improved management in preventing coccidiosis losses and increasing poultry profits. Why not let us know how many copies you need (suitable for imprinting) for your sales and service organizations? Write to: Agricultural Products Dept., Merck & Co., Inc., Chemical Division, Rahway, New Jersey.

NiCarb® *with* THE MERCK MARGIN OF SURETY

MERCK

®TRADEMARKS OF MERCK & CO., INC., FOR NICARBAZIN, SULFAQUINOXALINE, AND GLYCARBYLAMIDE, RESPECTIVELY.
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SABETHA, KANSAS · PHONE 111

Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

Influence of Range and Confinement Rearing of Turkeys on Growth, Feed Consumption and Body Conformation

● S. D. Barnett, E. C. Naber, J. B. Cooper and C. L. Morgan, South Carolina Agricultural Experiment Station; Poultry Science, Vol. 37, No. 6, November, 1958, pp. 1304-1308.

ABSTRACT

Experiments were conducted during three years (1955, 1956 and 1957) with both broad breasted bronze and small type white turkeys to determine the effects of range rearing of turkeys from 8 to 10 weeks of age until market on growth, feed consumption and market quality. All birds were grown out to 8-10 weeks of age on a 28% starting ration at which time groups were formed. A growing mash (approximately 19.75% protein) was fed free choice along with whole corn, whole oats, granite grit and water throughout the growing period to both birds on range and in confinement.

The ranges were approximately 1.25 acres in size and consisted of mixtures of lespedezas and Bermuda grass, lespedezas alone and Bermuda grass alone. Numbers per range varied from 36 to 65 for the bronze and from 57 to 75 for the whites. Confined bronze were allowed 5 sq. ft. floor space per bird in 1955, 6 sq. ft. in 1956 and 10 sq. ft. in 1957. Confined whites were allowed 4.5 sq. ft. in 1955, 4.3 sq. ft. in 1956 and 6.7 sq. ft. in 1957. In 1955 and 1956 slightly over one third of the confinement space was on wire-floored porches, while in 1957 it was all on floors covered with shavings. No strict system of range rotation was followed, and no differences were observed between range-reared and confinement-reared birds with respect to development of disease conditions such as hock disorders or infectious sinusitis. Experiments were terminated at 24 weeks of age in 1955 and 1956, and at 25 weeks in 1957.

Although the various groups of birds were confounded by the differences in numbers in each group from which the average data were calculated the following results seem apparent:

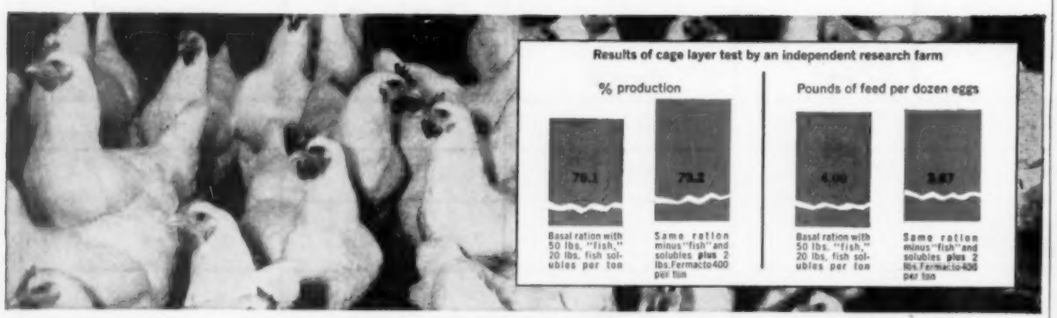
(1) The incidence of broad breasts was always considerably higher, regardless of breed, among the females than among the males.

(2) In general, the incidence of broad breasts was increased both in males and females of both breeds when the birds were range reared. In certain instances, the differences were very small and not significant, and in one year (1956) broad breasted small white males reared on Sericea lespedeza showed less incidence of broad breasts than either those reared in confinement or on Korean lespedeza range. Also, female broad breasted small type white birds in 1955 reared on either Korean lespedeza or Bermuda grass range showed less incidence of broad breasts than those female birds reared on Sericea lespedeza or in confinement. However, it is also interesting to note that broad breasted bronze females raised during the same year also showed less broad breasts when reared on Sericea lespedeza range than those reared on Korean lespedeza or in con-

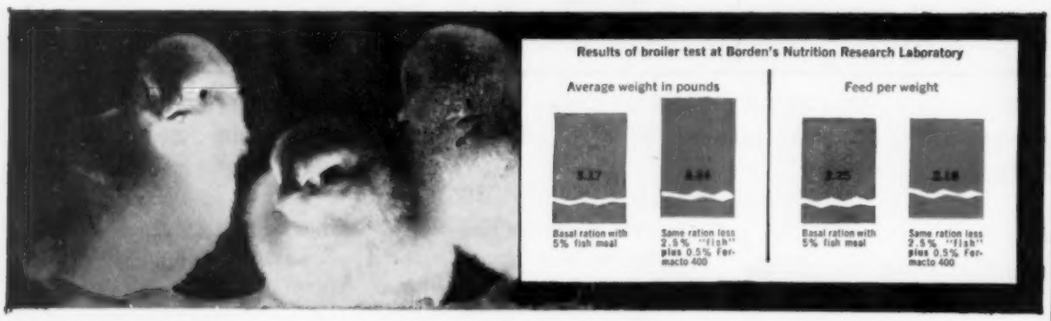
NOW...improve production while sparing fish factor(s)

with Borden's **fermacto 400**

cost-saving multiple blend of fermentation factors, for complete unidentified growth factor fortification


Results of cage layer test by an independent research farm
% production
Pounds of feed per dozen eggs
76.1
75.2
4.00
3.87
Basal ration with 50 lbs. "fish," 20 lbs. fish solubles per ton
Same ration minus "fish" and solubles plus 2 lbs. Fermacto 400 per ton
Basal ration with 50 lbs. "fish," 20 lbs. fish solubles per ton
Same ration minus "fish" and solubles plus 2 lbs. Fermacto 400 per ton

in egg mashes... only 2 pounds of Fermacto 400 per ton (all-mash basis), costing 25¢ — replacing 50 pounds of "fish" and 20 pounds of fish solubles — increased layers in daily production by 4.1% and increased profit per ton by $3.36.


Results of broiler test at Borden's Nutrition Research Laboratory
Average weight in pounds
Feed per weight
3.17
3.34
2.25
2.16
Basal ration with 5% fish meal
Same ration less 2.5% "fish" plus 0.5% Fermacto 400
Basal ration with 5% fish meal
Same ration less 2.5% "fish" plus 0.5% Fermacto 400

in growing rations... only 0.5% of Fermacto 400 per ton (all-mash basis) — replacing 2.5% "fish" — cut the feed/weight ratio from 2.5 to 2.16 and increased profit per ton by $6.75.

also available where convenience is a factor:

Borden's 300 — economical laying mash supplement containing Fermacto 400 and all essential micronutrients

OMNI-MIX — newly concentrated blend of whey, fish, and fermentation factors fortified with all essential micronutrients

Write for complete data...

THE Borden COMPANY
FEED SUPPLEMENTS DEPARTMENT
350 Madison Avenue, New York 17, New York

Laboratories and test farms at Elgin, Illinois

Planning a new mill or elevator? KELLY DUPLEX can help you.

Maybe you've been thinking about a new mill—a new addition—or a new machine. Then again, maybe you've just been wondering how you can get MORE from your present space.

Whatever it is, we would like to talk to you about it.

We've shown a lot of others how good machinery and good planning can do wonders for their capacity, their efficiency, and their profits—at COMMON SENSE COST. The chances are we can do the same for you.

Don't hesitate to send us the coupon. There will be NO obligation—and NO high pressure salesmanship. We don't do business that way.

The Duplex Mill & Mfg. Co., Springfield, Ohio
We would like to talk to you about planning.
We're interested in_____
NAME_____
FIRM_____
ADDRESS_____

The THREE Puritans

THE THREE PURITANS symbolize the three CCC quarries—in Quincy, Illinois, Carthage, Missouri and Weeping Water, Nebraska—so called because of the high purity of the deposits.

The superior quality of CCC Calcium Carbonate begins with THE THREE PURITAN QUARRIES—the purest and most nutritionally available sources of calcium carbonate.

But that's only the beginning. Also important are the extensive CCC laboratory facilities, research and quality control programs, plus the dependable service for which CCC is recognized. Together these factors add up to your best possible source for calcium carbonate.

Write, Wire or Phone

Calcium Carbonate Company

Pioneer Producers of Trace Element Products

520 South 4th Street • Quincy, Illinois

325 Woodman of the World Building, Omaha 2, Neb., Box 409, Carthage, Mo.

Let CCC RESEARCH Work for You!

- Calcium Carbonate—any desired grind
- Electro (free-flowing) Calcium Carbonate
- Iodized Calcium Carbonate—any desired iodine level
- Manganesed Calcium Carbonate—any desired manganese level
- Iodized-Manganesed Calcium Carbonate—any desired iodine and manganese levels
- Trace Mineral Premixes
- Shellmaker (calcium grit)

NEW

NEW BULKANIZER GIVES YOU NEW DESIGN, NEW CAPACITIES, NEW DELIVERY EFFICIENCY

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New design — New, four-foot sectional body design makes available, as standard units, 8-12-16-20- and 24-foot bodies. Steep V design assures complete unloading without sweeping or scooping. Wide, all steel "carrier" catwalks let you transport bagged feed or supplements. All steel weather tight doors individually operated for each compartment. Open and close without loss of clearance.

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finement. It is obvious no clear cut pattern was found, but it seems probable that range rearing did result in increased incidence of broad breasts, the degree of which was dependent upon the particular hereditary traits for the character present from year to year in the birds used in the tests.

(3) Although no really significant differences appear in either the live weight or feed efficiency of birds raised in confinement, vs. those raised on range, it should be noted that definite trends exist in the data, which are probably of practical importance. Live weights of small type white birds of both sexes were always slightly higher (variation for males, 0.0-0.9 lb.; for females, 0.1-0.6 lb.) than those reared on ranges. On the other hand, live weight of males of the broad breasted bronze breed was variable, and those reared in confinement were often slightly lighter than those reared on range. (For example, in 1955 those in confinement were 0.8 lb. lighter than those on Sericea lespedeza.) Also, in 1957, those on Bermuda grass were heavier (1.2 lb.) than those in confinement. In 1956, the broad breasted males raised in confinement were from 0.2 to 1.0 lb. heavier than those reared on ranges. Likewise, in 1955, the confined males were 0.3 lb. heavier than those on Korean lespedeza range.

In every instance, females of the broad breasted breed were heavier when raised in confinement (0.4-1.0 lb. heavier) than when reared on range.

(4) Feed efficiency figures were variable, but tended to show that efficiency was slightly better (variation, 0.01-0.18 lb. feed per pound gain) in the case of those broad breasted bronze turkeys reared in confinement. Also, the birds in confinement often tended to consume slightly more mash and less whole grain.

In the case of the small type white turkeys, the feed efficiency figures were so variable that no trends or conclusions can be formed.

COMMENT

Great interest is currently being shown by commercial turkey raisers in confinement rearing of birds to market age. This is especially true in the case of those growers who have enough timber and help to build their own pole sheds at a reasonable cost. Many growers have gone overboard in capital investment in such structures when using hired labor and purchased lumber.

The disadvantages of range rearing are well-known and include such items as greater labor costs, losses from predators and from inclement weather. The advantages of range rearing include such points as often more sanitary conditions, spreading of the manure by the birds themselves and cheaper housing. A point which is much disputed by growers and others is whether or not range rearing actually saves much in either feed consumption or net expense. With the development of rations which are capable of furnishing "unidentified growth factors" found in green, actively growing range grasses, poults and growing turkeys will now do well in confinement under practical farming conditions. The savings in feed consumption with good range are probably not as great today with the use of modern rations (Sunde et al., 1956; McCartney et al., 1956) as those quoted in most standard reference books or textbooks on turkey growing.

Many practical growers have observed that often birds which are grown in pole houses under good conditions of management will show better feed conversions and higher market weights than those grown on range when comparing split-lot groups of the same ages. This trend is confirmed to some extent by the current South Carolina work and the figures also show that a common commercial practice may make good sense—that is, it may be good practice to raise hens in confinement and toms on range if housing is limited and one wishes to secure the best utilization of both range and confinement rearing facilities.

The influence of range rearing on increased breast broadness certainly needs further investigation by other workers. The differences in certain years of the South Carolina work are large enough to warrant serious consideration of range rearing of all birds, regardless of the slight differences shown in market weights and feed efficiency. There is a possibility that such differences in breast conformation are due to increased activity and exercise of range-reared birds. When turkeys are sold on grade or in a competitive market such differences are highly important to the financial returns of the grower. Let's hope that the college workers get busy on this point so that we can make the proper recommendations to our turkey flock owners!

Timely and Worth Noting

Some evening when you are tired of watching TV or playing bridge, and wish to read a book which at the same time is both light, entertaining reading and highly educational, try "Genetic Resistance to Disease in Domestic Animals" by F. B. Hutt of Cornell University (published by Comstock Publishing Associates, Ithaca, N.Y.).

Don't let the high sounding, formidable title scare you. Actually, this little book (198 pp.) has some very good information which is highly original and of practical importance to feed men.

Discussed in a clear, readable manner are such subjects as disease and diet, natural selection against inadequate diet, decayed teeth on coarse feed, death delayed by wet feed, longevity, resistance to coccidia, yellow fat in sheep, genetic differences in utilization of riboflavin, special requirement of riboflavin by black chick embryos and genetic factors in metabolism.

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AMBURGO ACQUIRES INDIANA PLANT—The Amburgo Co., Inc., Philadelphia feed additives firm, has formed a subsidiary company, Amburgo Manufacturing Co., Inc., and has taken over, on a long-term lease, the Hope, Ind., plant of Fishel Products Co. Samuel M. Golden, president, reports that the plant, pictured above, will be used by Amburgo for the manufacture of concentrates containing fish solubles and fermentation solubles. A special department will be established to develop new and improved products.

New Differentials For Oats Futures

CHICAGO—Members of the Chicago Board of Trade have voted to adopt new differentials for oats futures contracts, it has been announced by Robert C. Liebenow, president of the exchange.

This amendment of the board rule governing oats differentials—that is, the discount or premium if any, at which grades of oats are deliverable on contract — was necessitated by changes in oats grading standards announced recently by the U.S. Department of Agriculture. These standards will become effective June 1, 1959, and will be applied to new standards contracts July and thereafter. Also effective June 1 old standards July and September contracts will be traded for liquidation only.

Following are the new oats differentials as adopted by vote: No. 1, Extra Heavy White oats, deliverable at 2¢ over contract price; No. 2 Extra Heavy White oats, at 1¢ bu. over; No. 1 Heavy White oats at 1¢ bu. over; No. 3 Extra Heavy White oats, at contract price; No. 2 Heavy White oats, at contract price; No. 1 White oats, at contract price; No. 3 Heavy White oats, at 1¢ bu. under contract price; No. 2 White oats, at 2¢ bu. under and No. 3 White oats, at 4¢ bu. under. Bright oats shall carry no additional premium or discount.

FEED FIRM INCORPORATES

DENVER, COLO.—Barton's South Side Feed & Supplies, Inc., has been incorporated by Johnson A. Barton, Ann O. Barton and Ronald K. Curtis.

Red Star Yeast Names New Vice President

MILWAUKEE—Donald E. Fisher has been elected by the board of Red Star Yeast & Products Co. to the newly-created position of vice president in charge of marketing.

The former director of sales and advertising has been an executive of the Milwaukee firm since 1956. Prior to that, Mr. Fisher was associated with Monsanto Chemical Co. and the Pillsbury Co.

A native of Pittsburgh and a biochemistry graduate of Penn State University, Mr. Fisher has spent nearly 15 years in the food business either in research, production or sales.

Red Star Yeast & Products Co. produces active dry or fresh compressed yeasts for bakery, grocery and consumer fields as well as nutritional and animal feeds.

Washington Company Vitren Distributor

ONTARIO, CAL.—Bob Beals, president, Vitren Corp., Ontario, Cal., has announced the appointment of Vander Giessen Distributors, with headquarters in Lynden, Wash., as distributors of Vitren products and services.

Vander Giessen Distributors operate from Seattle, Wash., Lynden, Wash., Portland, Ore., and Aldergrove, British Columbia.

The Vander Giessen organization is already supplying Oregon, Washington and British Columbia feed mills with Vitren poultry and cattle premixes, vitamins, antibiotics, veterinary supplies and nutritional and health services.

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DUST CONTROL NEWS

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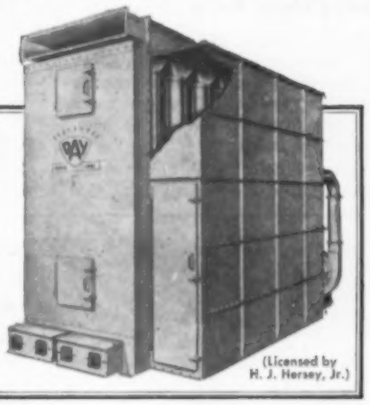

Cutaway view of DAY "AC"—available housed or unhoused—for pressure or suction.

(Licensed by H. J. Hersey, Jr.)

Better Dust Control Systems Cost Less When They Include a DAY "AC" Reverse Jet Filter!

Less equipment needed — Filtering rates for a DAY "AC" are 10 to 20 cubic feet of air per square foot of filter media. These are about five times greater than old style filters. This means you get maximum filtration from a minimum filter investment. Because virtually 100% of the DAY "AC" is operating at all times, no money is wasted on intermittent or standby units. One DAY "AC" will filter and keep separated, dusts from up to 10 different sources!

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Less space needed — Because of smaller diameter felt filter tubes the DAY "AC" gives you a greater air handling capacity in less space. DAY "AC" filters occupy up to 50% less space — an important consideration for plants of any size!

99.99+% filtering efficiency — The real "pay off" on DAY "AC" filters is their ability to clean dust laden air with near perfect efficiency! Even "tough" materials such as carbon black or atomic energy materials are filtered with optimum effectiveness.

For additional information about the DAY "AC" reverse jet dust filter write toDAY for Bulletin F-75. It also contains pages of useful air engineering data.

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IDEAS TO HELP YOUR CUSTOMERS

Heavy Hogs Risky

The abundance of grain probably will encourage feeding hogs to heavy weights this year, but the return for the extra gain is likely to cost more than the market value of the additional feed used.

Prof. Francis Kutish, Iowa State College farm economist, says good meat-type hogs at more economically produced lighter weights will have the advantage over hogs marketed at heavier weights in 1959. He notes that producers who market heavy hogs will continue to face fairly wide discounts this year.

It is usually hazardous to feed to heavy weights in a lower-price year, according to Prof. Kutish. A short-time exception to this, he says, might be the market conditions late in the spring, but seasonal price advances almost always offset the disadvantages of discount for weight then.

◆

Poultry Check List

Poultry producers who have flock-disease problems may find value in looking over a list of possible contributing factors compiled by a Georgia veterinary pathologist.

These points include: (1) Grower not ready to receive chicks when he gets them, (2) too many weak cull chicks in the poultry house, (3) improper ventilation causing wet, caked litter and excessive ammonia fumes, (4) insufficient and/or poorly arranged water and feeder space, (5) improper disposal of dead chicks, (6) too many cull birds (often disease carriers) not removed from flocks, (7) too many age groups cared for by common attendant, (8) too many flocks vaccinated on schedule with little or no consideration of the flock's general health, (9) inadequate records of feed consumption and mortality and (10) negligent operators who spend more time away from the flock than with it.

A wise practice for poultrymen to follow is taking diseased birds to a poultry laboratory for analysis as soon as any trouble is noted.

◆

Turkey Tests Reported

Tom turkeys apparently do best while roughing it outside, but females seem more adaptable.

In tests with large white and broad-breasted bronze poults of both sexes at the Ohio Agricultural Experiment Station, toms raised on ladino clover range consistently weighed more at 24 weeks of age than those raised in confinement. On the other hand, it made no difference in rate of gain of the females whether they were raised outside or inside, but the range-reared females of both varieties required a little less feed per pound of gain than the confinement-reared females.

Bronze male turkeys reared on range averaged almost 2 lb. more than toms raised in shelter, while large whites averaged a little over a pound more in the same comparison.

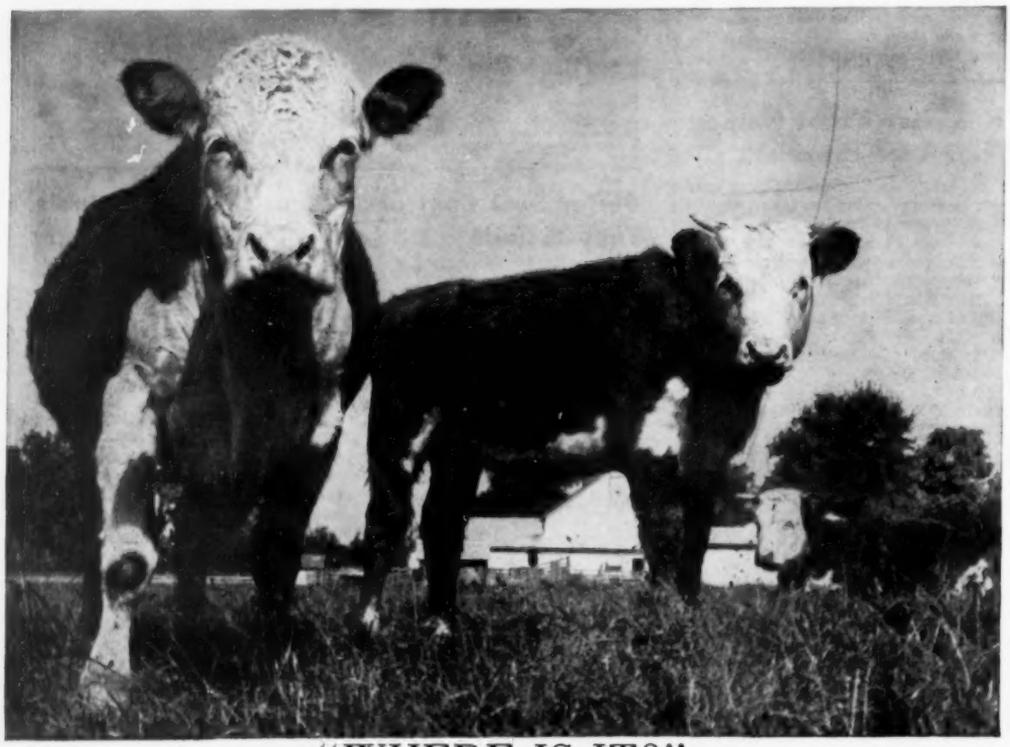
◆

Cows Like Comfort

If a producer's dairy herd isn't performing as it should, it could be his cows aren't comfortable. Cows react to discomfort by giving less milk.

Long-range studies by the U.S. Department of Agriculture and the Missouri Agricultural Experiment Station, Columbia, are finding out what combinations of temperature, humidity, wind and solar radiation make a cow uncomfortable enough to lower her milk production. These studies are also showing how cows can be sheltered against weather extremes.

Tests by R. G. Yeck in the climatic laboratory at Columbia show that milk production dropped sharply as temperature rose above 75° F., with relative humidity at 65%. Relative humidity had no appreciable effect on milk production or feed consumption at temperatures between



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POULTRY SURVEY COMMITTEE—Pictured in conference in Chicago before announcing their ninth forecast of poultry production and price trends (Feedstuffs, March 7) are members of the Poultry Survey Committee (left to right): Dr. Ralph L. Baker, professor of agricultural marketing, Pennsylvania State University; Dr. S. Kent Christensen, associate professor of marketing, Oregon State College; Dr. William R. Henry, assistant professor, department of agricultural economics, North Carolina State College; Dr. Richard L. Kohls, professor of agricultural marketing and prices, Purdue University, and Dr. Henry E. Larzelere, associate professor of agricultural economics, Michigan State University. These agricultural economists meet four times a year to prepare their forecast of poultry price, production and consumption trends. They are assisted by economists from industry and the U.S. Department of Agriculture. Five national trade organizations co-sponsor the work of the committee: American Feed Manufacturers Assn., Inc., American Poultry and Hatchery Federation, National Broiler Council, National Turkey Federation and Poultry and Egg National Board.

17° and 75° F. Above 75°, however, high humidity accentuated the effects of high temperature on both.

Wind from propeller-type fans blowing on the backs of cows was found in the Missouri tests to be beneficial to milk production in hot weather. Winds of 5 and 10 m.p.h. at a temperature of 80° F. brought milk production back to nearly normal. Winds of 9 m.p.h. at 95° F. restored from 41 to 77% of the losses in production.

As milk decreased with extremely high or low air temperatures, butterfat increased just as it does under normal lactation decline.

Two 7½ h.p. motors provided enough power in the Missouri tests to hold temperatures as low as 60° F. in an experimental six-cow stable.

◆

Added Income Choices

Six choices for expanding livestock and poultry enterprises that could add $1,000 net income annually to a farm business, based on current prices, have been figured out by University of Illinois agricultural economists.

They are: Five dairy cows, 13 beef cows, 37 yearling steers in drylot, 20 litters of hogs, 800 laying hens or 72 ewes and lambs.

The producer must be ready to take on the job of providing more feed, more labor and more investment before going into any of these additional enterprises, the economists emphasized.

Addition of 37 yearling steers or 20 litters of hogs will require about 2,000 more bushels of corn. The laying hens will need only about 960 more bushels of corn; the beef herd, about 520 bushels; dairy cows, about 300 bushels, and sheep, about 180 bushels. Hay and roughage needs, of course, will be highest for the beef herd, yearling steers, sheep and dairy cows.

Additional hours of labor required will run something like this: Hens, about 800 more hours of labor per year; dairy cows, 625 hours; beef herd, 520 hours; hogs, 450 hours; steers, 444 hours, and sheep, 432 hours.

Investment and expenses will vary even more widely than labor. The economists said hens and sheep will require about $1,800 more investment and expenses; dairy cows, $2,000; hogs, $2,350; beef herd, $4,875, and yearling steers, $9,000.

ANNIVERSARY CAKE—R. M. Wilbur (left), superintendent of Coronet Phosphate Co., Norfolk, Va., cuts the Coronet 50th anniversary cake in festivities at Plant City, Fla., recently. Observing the cutting is B. G. Dabney, retired superintendent now serving the firm as a consultant. The cake was served at an employee dinner at Plant City.

MERGERS ORDERED IN CANADA

OTTAWA—Under the general reorganization of the Canada Department of Agriculture to take effect April 1, 1959, existing science service laboratories and experimental farms will merge for greater integration and efficiency wherever possible, according to Canadian officials. Six such centers will be established and known as Region Research Stations.

New field proof that nf-180® is the best way yet to control hog scours

When hog feed customers see their herd being devastated by necrotic enteritis or bloody dysentery, they need help fast. Not stop-gap help, but a treatment that really works.

You can give them that help with the new nf-180 treatment now proved effective in actual field use. Since this nf-180 use was introduced just a few months ago, hundreds of hog men have tried it with satisfaction . . . saved thousands of hogs from necro and bloody dysentery. Even where all other treatments have failed, nf-180 has done the job . . . stopped scouring, put hogs back on feed . . . straightened out runts.

Scientists credit nf-180's effectiveness to its unique ability to out-and-out kill germs...not just slow them down and provide the opportunity for resistant strains to develop, and unlike arsenic compounds, nf-180 is entirely safe.

Experienced swine raisers are proving to themselves that nf-180 is the first scours-treating feed medication that is really effective against *both* necro and bloody dysentery. It opens the way to new opportunities for you, through ready-mixed feeds and custom-mixing service. Add nf-180 to a complete ration at the rate of 300 grams furazolidone per ton. Feed this ration for 10 to 14 days.

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Kansas Scientists Rank Wheat at Top As Livestock Feed

MANHATTAN, KANSAS — Although the U.S. has placed wheat on a pinnacle as a source of human food, the fact remains that wheat also ranks as a top livestock feed, according to Kansas State College agricultural scientists.

In a Kansas Agricultural Experiment Station circular "What About Wheat as a Livestock Feed?" (No. 369), a number of Kansas State staff members report that wheat grain, which resembles the other cereals farmers feed, has the same general feed value qualities and traits. "Average protein content of wheat is higher than that of corn and the quality of wheat protein is also higher," the report states.

According to the report, the available food value of wheat is also equal to corn. Wheat, for instance, has 11.1% digestible protein compared with 6.7% for corn. It has twice as great a proportion of calcium.

Still, there has been no big rush by farmers to feed wheat despite the record inventories. "The cost to the feeder, not quality or suitability, has been the big reason in recent years for greatly reduced use of wheat as livestock feed," the Kansas State scientists said.

Cattle, when eating wheat, prefer it in mixtures because, by itself, wheat is pasty or gummy in the animal's mouth.

"Most authorities advise that wheat be limited to three or four parts in 10 parts of concentrate mixture for dairy cattle," the agriculturalists said. "Usually wheat is not used for more than half the concentrate with beef cattle. It should be coarsely ground."

Wheat is usually higher in protein than the grains it replaces, they added. Two pounds of wheat, for example, equal more than a pound of cottonseed meal as a source of protein for wintering beef cattle.

For hogs, wheat grain offers 3-6% more feeding value pound for pound than corn. Wheat is also rated by some officials as an ideal poultry feed. "Poultry prefer the taste of wheat to that of all other grains. The size is nearly ideal, the color good, and fiber content is low," commented the scientists.

NEW SUPPLEMENT FIRM

FRESNO, CAL.—The Valley Feed Supplement Co. has been formed in Fresno as a supply house for feed processing mills. J. M. Schneider is principal owner.

Louisiana Chicken Contest Dates Set

ALEXANDRIA, LA. — The annual Louisiana Chicken of Tomorrow contest will be held here March 31-April 2. It will feature the coronation of a state poultry queen, a barbeque and auction of the prize-winning broilers.

G.L.F. Handles Milkers

ITHACA, N.Y.—Cooperative G.L.F. Exchange, Inc., Ithaca, has been franchised as distributor of Perfection milking systems in New York, New Jersey and northern Pennsylvania, according to an announcement by G.L.F. and Perfection Manufacturing Corp., Belvidere, Ill. The Perfection line includes milking machines and pipeline systems for transporting milk from the cow to a bulk milk tank in the milkhouse.

Put it THERE!

Spot deliver your customer's processed feed exactly where he wants it with the new Jay Bee All-in-One Feedmaker® Air Unloading System

Jay Bee's air conveyor—white arrows in illustration—adds another service to the All-in-One Feedmaker's high volume, low-cost grinding, mixing, and blending operation.

Now you can pipe processed feeds directly from the mixer to storage bins, feeders, hoppers—overhead or ground level—at distances up to 30 or 40 feet. Flexible 4-inch tubing can be easily joined in any number of lengths. Powerful air delivery puts the feed right where it is needed—instantly, without waste. The whole operation is quick, clean, efficient—giving your customer better, faster service—making less work for your operator.

● And remember—the Jay Bee All-in-One Feedmaker gives the same fine "textured grind" all Jay Bees deliver: horsepower for horsepower, screen for screen, Jay Bee hammermills are unexcelled for their consistently uniform texture of grind.

Note to owners and operators: Take advantage of Sedberry's complete mill installation service—every step from plan to production. This coupon will bring you complete information.

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OHIO CONVENTION—Ron Kennedy (first picture), vice president, F. H. Peavey & Co., Minneapolis, asks, "How free do we really want to be?" in his address before delegates to the 80th annual convention of the Ohio Grain & Feed Dealers Assn. in Columbus. In the center picture are new and retiring officers and trustees of the association. John Wiant (third picture), president, Columbus Feed Club, welcomes delegates to the convention.

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Comments on Pelleting Hay for Dairy Animals

LINCOLN—Pelleting of long hay for dairy animals may be a long way off, Dr. Howard Larson, dairy husbandry department, University of Wisconsin, said at the annual meeting of the Nebraska Dairymens Assn. at the University of Nebraska.

Dr. Larson said the two reasons for this are: (1) There are no machines to do the job as efficiently as a baler, and (2) it has not been learned how to pellet half-dry hay and keep it in the pellet form.

Dr. Larson pointed out that there was no difference in milk production, dry matter intake and ruminating time between feeding long hay and pelleted long hay. Eating time was less when using a pelleted ration in studies to date.

Economics of storing, feeding and harvesting pelleted long hay are the main considerations, Dr. Larson said. At present pelleting rations are not recommended unless there is a definite economic advantage.

Hog Raising Booklet Published by College

CORVALLIS, ORE.—Opportunities and some of the risks of raising hogs in Oregon are set forth in a new booklet recently published by Oregon State College Extension Service.

Pacific Coast states now raise only 1% of the hogs in the U.S., creating strong demand for pork, since 10% of the nation's people live in Oregon, Washington and California. As a result, hog prices in the area are among the highest in the nation.

The illustrated, informative booklet, "So You Want to Raise Hogs," points out some of the risks such as sharp fluctuation in hog prices. Present large supplies of barley and other locally-grown grains could also change, but the long-range outlook is good for local hog farmers, the booklet says.

The booklet discusses feeding and feed costs, good cross breeding programs, housing of hogs and marketing. Copies of the booklet are available on request to Oregon residents from local county extension offices or the Oregon State College bulletin clerk, Corvallis.

Reports Minnesota Tests on Pelleting Of Lamb Rations

ST. PAUL—Whether it will pay to feed a pelleted ration to lambs depends, mostly, on how much labor and feed handling cost pellets will save, but, according to University of Minnesota researchers, the gain increases from pelleting high quality feeds are not enough to pay for the extra $4 or so per ton that pelleting costs.

According to Dr. R. M. Jordan, associate professor, animal husbandry, pelleting trials were conducted in the spring and again in the fall of 1958 on lambs at the West Central Experiment Station, Morris, Minn.

In the spring trials, Dr. Jordan and H. E. Hanke at the Morris station found that lambs gained slightly faster on pelleted rations than they did on long alfalfa hay and shelled corn. They tried three pelleted rations: One of half hay and half concentrate, one of 75% hay and one fourth concentrate, and one of half hay and half barley concentrate.

However, due to the cost of pelleting, feed cost per hundred pounds of gain was higher in all three pelleted rations than it was for lambs on long hay and shelled corn.

In the fall trials, there was little difference between gains from pelleted rations and a loose ground mixture of hay and corn, except that the pellets containing barley resulted in slower gains than all other rations.

Whether or not the ration was in pellet form had no important effect in either study on carcass grade, yield and shrinkage during shipment to market.

Dr. Jordan and Mr. Hanke concluded that pelleting the ration will usually increase average daily gain and average feed consumption in a comparison of pellets and long hay and shelled corn. But the difference disappears if the non-pelleted ration is ground and mixed, they said.

FEED MILL COMPLETED

PANGBURN, ARK.—The Farmers Mercantile Co. here has recently completed a $25,000 Ful-O-Pep feed mill. Houston and David Butler are owners of the facility. Under the firm's program, the Butlers supply feed for approximately 20 growers and they feed an average of 280,000 broilers.

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OVERALL **OUTLOOK** on industry developments comes to you weekly . . . while it's still news in FEEDSTUFFS

Researcher Asserts Value of Dehydrated Alfalfa as Supplement

LAFAYETTE, IND.—Dehydrated alfalfa meal improves growth rate and reproductive efficiency of farm livestock, according to Dr. W. M. Beeson, acting head of Purdue University's animal science department.

Increased use of poor quality roughage, such as corn cobs, corn stalks, corn silage, cottonseed hulls and straw, in livestock rations reemphasizes the use of dehydrated alfalfa meal as a supplement, he said.

Dr. Beeson asserted the following:

"Beef cattle supplements designed to balance the deficiencies of low quality roughages should contain 14% of dehydrated alfalfa meal.

"Fattening rations for cattle can be improved by feeding from 1 to 3 lb. of alfalfa meal per steer daily.

"Alfalfa pellets can be used to supply unidentified factors and also for carriers of antibiotics and hormones when extra sources of protein are not required in supplementing cattle rations.

"Wider use should be made of alfalfa meal in creep rations for beef calves.

"Ewes fed during gestation on poor quality roughages should receive 1 lb. of alfalfa pellets daily to insure a healthy lamb, normal growth and abundant wool crop from the ewe.

"Creep rations for lambs may contain from 20 to 40% of dehydrated alfalfa meal with excellent results.

"Moving hogs to concrete points up the need for dehydrated alfalfa meal in swine rations. Ten percent or more of alfalfa meal should be included in all drylot protein supplements for swine.

"Birthweight, weaning weight, per cent of pigs weaned and general health of pigs can be improved significantly by including 15% of alfalfa meal in the complete hog ration or by feeding 1 lb. of alfalfa pellets per sow daily."

Dr. Beeson adds that the potential value of dehydrated alfalfa meal has not been completely determined and that new approaches need to be explored.

Bloat Preventive Studies Continued

BLACKSBURG, VA.—Another development in the long search for ways to prevent bloat has been reported by agricultural scientists at Virginia Polytechnic Institute.

Bloat in animals grazing alfalfa pasture has been controlled in tests by the addition of soybean oil, lard oil and lecithin mixed with soybean oil to the grain ration at the rate of 0.25 lb. or more per head daily. Grain was fed twice daily. The addition of the oils to the drinking water at the rate of 2% also was effective, VPI researchers reported.

In recent tests, the overnight feeding of an average of 12 lb. of excellent quality oat hay per cow significantly reduced the incidence and severity of acute bloat resulting from eating succulent, immature alfalfa pasture.

Dairy scientists also reported on an attempt to increase the eating rate of dairy cows by adding water to the concentrate mixture. High-producing cows may not, in the time allowed when milking parlors are used, eat the necessary amount of concentrate, they reasoned. In one study, cows ate 0.57 lb. dry mix per minute, while the rate increased to 1.39 lb. per minute when 1.5 lb. water was added per pound of feed. More recent work supports this finding. Earlier work also showed that milking rate was favorably influenced by decreased eating time. However, in later experiments no evidence of such an effect was found.

New Dealers

FAIRBURY, ILL.—Fifteen dealers in five states have announced that their firms will handle the complete line of products manufactured by Honeggers' & Co., Inc., Fairbury. The line includes livestock and poultry feeds, Honegger layers and farm buildings and equipment.

Five of the dealers are located in Illinois, four in Iowa and two in South Dakota, Missouri and Nebraska.

ADVERTISEMENT ADVERTISEMENT ADVERTISEMENT

Newcastle "Breaks" Following Vaccinations Are Scaring the Industry!

Water vaccination is still the best method of mass immunization, says scientist. Vaccine strains too weak to do the job are causing the trouble.

● The water method of mass immunization against Newcastle disease—one of the easiest, most effective ever developed — frequently is blamed by poultrymen as the cause of Newcastle Disease breaks in vaccinated flocks.

Poultrymen would do well to take a long, critical look at the vaccine strain being used. It's very likely to be a classic example of a "boy being sent to do a man's job." Scientific studies have proved again and again that the live virus in Newcastle Disease vaccines must hit a happy balance—strong enough to confer immunity in birds, yet mild enough to keep reaction well out of the danger zone.

Research work has proved that the B¹ strain of Newcastle Disease virus just does not have the immunizing power necessary to do a uniformly satisfactory job in the drinking water. It's a case where the **water method is right** but the vaccine strain is wrong. Here's why:

Limitations of B¹ Strain

Many mass-applied Newcastle Disease vaccines on the market today are of the B¹ Strain. The B¹ Strain can immunize through the drinking water **only** if the treated water is consumed quickly and the vaccine has a very high titre so that it can stand extreme dilution. Birds not drinking for some time after the water has been treated with vaccine will consume water in which the virus has dissipated and lost its infecting power.

The best indicator of generalized immunity, high blood titres produced within the birds, cannot be demonstrated in all the birds infected with the B¹ Strain.

Only one mild strain of Newcastle vaccine consistently produces the **high** blood titres and durable immunity, sought in mass application.

That strain is the Vipol 717 Strain, also known as the LaSota Strain. It is manufactured exclusively by Vineland Poultry Laboratories, Vineland, N.J.

By Tevis M. Goldhaft, D.V.M.

Potency of LaSota Strain

The Vipol 717 Strain retains its power to immunize for periods as long as 24 hours and more after it has been added to poultry drinking water. Because of the original high titre of the virus in the vaccine itself, it can stand dilutions in the drinking water well beyond recommended levels.

This strain has an unlimited infecting potential that continues through the vaccination reaction period and insures the immunity of a maximum number of susceptible birds. Revaccinations on young chicks with Vipol 717 are reduced to the minimum and are necessary **only** if the birds are carrying parental immunity at the time the vaccine is first given.

On the other hand, revaccinations with the B¹ Strain are necessary because this strain of virus lacks infecting potential among those susceptible birds that do not receive a dose of vaccine at the time of vaccination.

For nearly four years now, researchers who produce the Vipol 717 Strain of vaccines have been challenging the industry with this statement: "The Vipol 717 Strain of Newcastle Disease Vaccine produces a higher titre and a more durable immunity than the B¹ Strain." This challenge was carried in nation-wide advertisements for many months. To date, not a single contradiction has been received from any vaccine manufacturer, pathologist, breeder, hatcheryman or grower.

Merits of Mass Vaccination

The mass application of Newcastle vaccine through the drinking water has obvious advantages. It is a tremendous labor saver. It eliminates the stress to birds handled individually. And, with the positive immunity provided by the Vipol 717 Strain of Vaccine—as opposed to the poor results often obtained with the B¹ Strain—there is no reason not to make use of the drinking water method.

Water application has one other advantage. Overdosage is not possible through the drinking water.

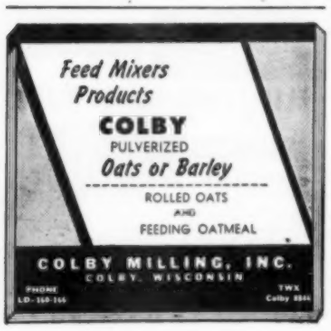
This is not true of the other methods of mass application, the dusting or spraying methods. Water vaccination sets up a protective infection in the upper respiratory tract.

Disadvantages of Spray, Dust

When birds are sprayed or dusted, infection is produced in both the upper and the lower respiratory tracts. It is when vaccines are inhaled into the lower respiratory tract and deep into the lungs, and possibly into the air sacs, that overdosage can occur. Excessive mortality can result, particularly when birds are vaccinated at a young age.

Vaccination through the drinking water is the most efficient, economical and effective mass method of immunizing poultry against Newcastle Disease — providing the Vipol 717 (LaSota Strain) is used.

Remember that the LaSota Strain is used by Vineland Poultry Laboratories exclusively as the basis for its Vipol 717 vaccines. See your nearest dealer or Vineland state distributor, or get in touch with Vineland Poultry Laboratories, Vineland, N.J., or 4068 Broadway Place, Los Angeles 37, Cal., for either the product desired or more detailed information.



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Winners of Pfizer Contest to Leave For Europe Nov. 8

NEW YORK—Winners of the life cycle hog feeding contest being sponsored by Chas. Pfizer & Co., Inc., will leave New York Nov. 8 for a free, 10-day tour of Europe.

Winners will include four feed dealers and their wives, as well as the dealers' four farmer-customers and their wives who place highest in the contest.

The company is sponsoring the contest as part of a nation-wide educational program to promote the benefits of life cycle feeding, a Pfizer spokesman explained. He said feed stores across the nation are adopting the educational campaign and contest which got under way Feb. 15. "The contest stores are carrying colorful display units calling the farmers' attention to the various stages of nutrition in the life cycle of hogs—gestation, lactation, pre-weaning, weaning, growing, finishing and the stress periods."

To enter the contest a farmer has to have an ingredient tag from a bag of life cycle feed containing Terramycin. He then fills out an entry blank at his local feed store and gives the initial 35-day weight of any litter of pigs of his choice and other pertinent feeding-management information. He finally reports his life cycle feeding results back to the dealer as 140-day weights.

Farmers have until May 15 to enter 35-day weights at their local feed stores.

Contest officials stress that the awards will be made strictly on merit —regardless of the size of the operation. The four top hog feeders will be picked by a team of swine authorities from government and industry.

The winning dealers and producers and their wives will fly from New York to Copenhagen, Denmark, and after a tour of the Danish capital and countryside, they will sightsee in England and France, stopping over at London, Paris and other European cities. They will return to Los Angeles Nov. 18 by the polar air route.

Offers Scholarships to Employees' Children

MINNEAPOLIS—Ten college scholarships worth up to $5,000 in total are being offered by International Milling Co. to sons and daughters of its employees. Eligible is any high school graduate under 26 years of age whose parent is employed by International and has five years or more of service.

Six of these scholarships will be awarded in the U.S. and the other four will be awarded to sons and daughters of employees in Canada for study at an accredited college, university or vocational school. The one-year scholarships, worth from $250 to $500 each, will help cover tuition fees for the 1959-60 school year. This is the fifth successive year that these scholarships are being offered.

The scholarships may be used for any college undergraduate year or for any year in a vocational school. Winners are selected on the basis of character, leadership and scholastic ability by a committee of three prominent educators.

Dr. Max Moeller

RESEARCHER — Dr. Max Moeller, a poultry nutritionist, has joined the staff of Dr. Salsbury's Laboratories protozoology department. He is in charge of feed formulation, mixing and nutrition research, according to Dr. O. H. Peterson, director of research. Dr. Moeller received his bachelor of science, master's and doctor's degrees from the University of Illinois. Along with his studies, he conducted several research projects and has published several scientific papers on poultry nutrition.

Georgia Poultry Group Starts Member Drive

GAINESVILLE, GA.—The Georgia Poultry Federation has started its 1959 membership campaign with Herman Pierce, Gainesville, as committee chairman in charge.

Districts and chairmen include: Calton, Keely Greer, Rocky Face; Canton, Veachel Gray, Canton; Cumming, A. C. Smith, Jr., Cumming; Gainesville, J. L. Fulenwider, Gainesville; Cedartown, Bill Cox, Cedartown; Atlanta, George Cagle, Atlanta; Athens, Mitchell Bond, Royston; Buena Vista, James Dent, Buena Vista; Macon, Roy Sanders, Macon; Augusta, C. K. Laurent, Augusta; Southwest, J. C. Roberts, Sycamore, and Southeast, W. A. Crider, Douglas.

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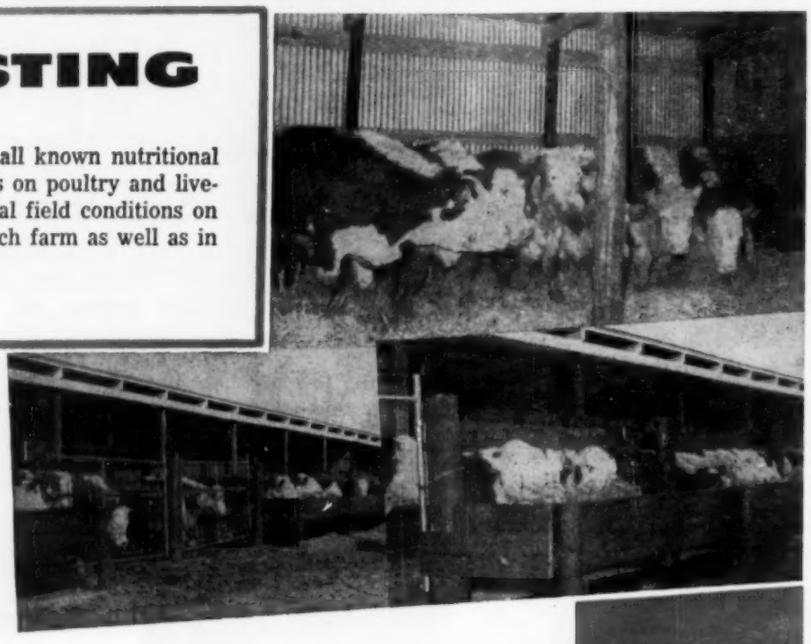

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Tests Show Several Grains Can Be Used In Swine Rations

FAYETTEVILLE, ARK. — Replacing corn with other grains may cut cost of finishing swine, according to research at the University of Arkansas Agricultural Experiment Station.

A series of tests have been conducted during the last four years to re-evaluate some of the common grains used for swine feeding. Dr. P. R. Noland and Dr. K. W. Scott were in charge of the tests.

Ground grains (barley, milo, oats, wheat, and brewers' rice) were substituted on a pound-for-pound basis for ⅓, ½, ¾, or all of the corn in a balanced growing and finishing ration. This ration was fed to pigs from the time they weighed 40 lb. until they weighed 200 lb. Other components of the drylot ration were solvent process soybean meal, dicalcium phosphate, ground limestone, salt, B-vitamins, vitamin A and D, and aureomycin or terramycin.

As the percentage of brewers' rice was increased to replace corn, the ration became more efficient and the pigs gained more rapidly. Brewers' rice required only 87-92% as much feed as corn to produce a pound of gain.

Substituting barley or oats for corn resulted in increasingly larger quantities of total feed necessary to produce a pound of gain. Replacing corn with barley did not appreciably reduce the daily rate of gain, but when ground oats replaced more than ⅓ of the corn, the rate of gain decreased. This decrease was not too marked until more than ¾ of the corn was replaced by oats, the researchers noted.

Ground milo produced slightly faster but less efficient gains as the percentage of this grain in the ration was increased. Ground wheat produced gains about equal to the corn ration both in rate and efficiency of gain.

Drs. Noland and Scott concluded that when the price is favorable, ground oats can be used to replace 50-75% of corn in swine finishing rations, while the other grains tested can be used as the only grain in these rations.

Mississippi Poultry Industry Growth Cited

TUPELO, MISS.—Speaking before the annual meeting of the Tupelo National Farm Loan Assn., E. W. Garrison, poultry specialist at Mississippi State University, described the poultry industry as the fastest growing farm industry in America.

He pointed out that in 1958 Mississippi had 2 million laying hens, 1 million breeder hens and produced 85 million broilers.

He predicted that during 1959 broiler production will increase by 35 million, and the breeder hen gain will be 400,000.

"The industry has reached the point," he said, "where it takes organized production, processing and marketing to be successful. There is no place for the individual operator," Mr. Garrison commented.

He recommended that broiler houses, to be more productive, should house between 10 and 12 thousand chickens, rather than the 6,000 average now in operation over most of the state.

Egg Program to Be Launched in Arkansas

RISON, ARK. — Aubrey Turner, commercial poultry operator, has announced plans for establishment near Rison of a commercial egg program with an initial total of 50,000 layers.

Mr. Turner said the hens will be placed with some 10 or 12 growers-contractors. The layers will represent an investment of $75,000.

The egg program will be handled separately from Mr. Turner's broiler firm, and the eggs will be sold out of Arkansas.

Mr. Turner said additional feed storage units and grain elevators have been constructed to provide storage for feed for the layers.

Turkey Hatchery

BATESVILLE, ARK. — The Central Missouri Turkey Hatchery, Inc., Eldon, Mo., has opened a new turkey hatchery here to serve Arkansas and states to the east and south. Milo Robinett, manager, said the hatchery has the capacity to turn out about 200,000 poults during a five-month hatching season.

Cooperative to Build Soybean Storage Unit

McGEHEE, ARK. — The McGehee Grain Dryers Cooperative Assn. will construct a new $550,000 soybean storage unit, according to an announcement by John Baxter, an official of the association. He said the group has obtained a tract of land located just south of its present facilities on which to erect the unit.

Mr. Baxter said the cooperative decided to construct the new facility because of excellent prospects that producers will double the production of soybeans in this area.

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FOR SALE — 1955 DAFFIN PORTABLE feed mill with batch mixer and molasses supply. Mounted on 1956 Ford, 8-cylinder, F-600 truck. Condition excellent. Write or phone H. R. Williams Mill Supply Co., 1320 Main St., Kansas City, Mo., Victor 2-3232.

SALE — ALUMINUM TANK, 4,000 GAL. Dewatering presses: Duvenport No. 1A, No. 2A, No. 3A; Louisville 8-roll 36"; six Louisville Rotary Steam Tube Dryers 6'x50', 6'x30', 6'x25'; screw conveyor, trough belt conveyor, bucket elevator, bins, etc. Perry, 1403 N. 6th St., Philadelphia 22, Pa.

FOR SALE—WENGER 1000 HI MOLASSES pellet mill complete with cooler, pump, mixer, feeder, revolving duster, fan and motors; 36" and 42" filter presses; filter cloth washing machine; Buffalo cookers, DeLaval centrifugen, Zenith and Davenport dewatering presses; York Ammonia compressors; Vogt oil chiller; scale tank complete with Toledo scale; Richardson scales; meal coolers; Roots-Connersville blower; Davis vertical mixer; horizontal mixers; O.K. bagging scale; Prater pulverizers; bucket elevator legs; pumps; motors. Contact Lee Atherton, Archer-Daniels-Midland Co., Minneapolis, Minn.

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OPPORTUNITY IN PUERTO RICO — SUpervisory poultryman well grounded in all phases of egg production. Write experience, background, references. Dan Hurson, R.D. 2, Lakewood, N. J.

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LEADING MINERAL MANUFACTURER desires general manager. Must have knowledge of mineral and feed business and executive and business ability. State experience, age and salary desired. Our people know about this ad. Address Ad No. 4645, Feedstuffs, Minneapolis 40, Minn.

DISTRICT SALES MANAGERS-SALESMEN —Manufacturer animal health products, antibiotic vitamin mineral supplements. Territories open Indiana, Illinois, Iowa, Wisconsin, Michigan, Pennsylvania, New York, other states. Expenses, salary, commission. Give details, experience, references. Address Ad No. 4510, Feedstuffs, Minneapolis 40, Minn.

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MANAGEMENT POSITION—PREFERABLY in sales promotion or merchandising. Seven years' credit, accounting and promotion experience with one of nation's largest feed companies. Married. Family. College degree. Address Ad No. 4649, Feedstuffs, Minneapolis 40, Minn.

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WANTED TO BUY — RICHARDSON scales, bag closing machines and other good mill, feed and elevator equipment. J. E. Hagan Mill Machinery, Jefferson City, Mo.

USED HAMMERMILLS, MIXERS, PELLET and roller mills—any excess equipment. Highest cash prices paid. Free listing for any old equipment with our buyers' exchange. Will sell on brokerage basis or cash. Write James Equipment Co., Box 460, Fort Dodge, Iowa.

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Indiana Grain, Feed Movement Surveyed

LAFAYETTE, IND. — A survey made by Purdue University's Agricultural Experiment Station shows that 29% of purchases of corn, wheat, oats and soybeans by Indiana country elevators during the period Oct. 1, 1956, to Sept. 30, 1957, were shipped by truck.

Excluding grain retailed to farmers or used in feed, a little more than one third of the grain was shipped by truck and two thirds by rail, according to a Purdue study report, "Truck Movement of Grain and Feed in Indiana," by Dr. Paul L. Farris, agricultural economics department.

Sixty per cent of the truck shipments went out-of-state, according to the report. Chicago and Louisville were revealed as important receiving points. Chicago's share of all trucked grain was 18%, while Louisville received 15%.

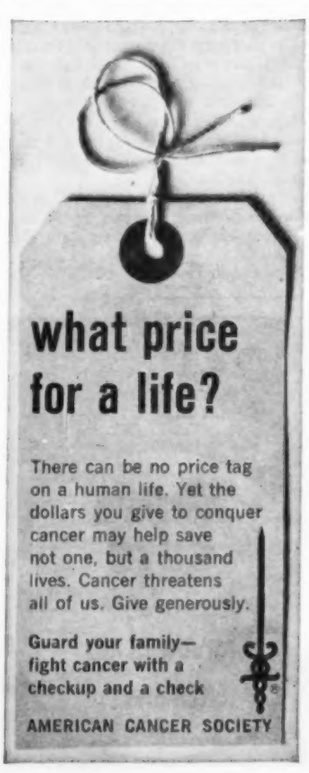
Many southern Indiana elevators purchased corn and oats from outside their local trading areas. Most important origin was Illinois, accounting for more than half of the corn and oats volume shipped in by truck.

Dr. Farris reported from survey results that feed received at Indiana country elevators by truck traveled shorter distances than corn and oats. Only 6% came from outside the state, and 45% originated within the same crop reporting district where it was received.

Salsbury Company Advertises in Life

CHARLES CITY, IOWA—A recent issue of Life magazine carried a full-page advertisement sponsored by Dr. Salsbury's Laboratories, Charles City, promoting the year-round consumption of turkey.

H. G. Bos, director of marketing for the Iowa firm, explained that the purpose was to boost turkey consumption so that "everyone in the turkey industry" would benefit.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"One thing about Sam—he never fails to leave a tip!"

North Carolina Feed Tonnage Boosted 19%

RALEIGH, N.C. — North Carolina feed tonnage shipped during the first seven months of the current fiscal year was almost 19% ahead of the tonnage for the same period a year earlier, the North Carolina Department of Agriculture reports.

Tonnage for July-January of the 1958-59 fiscal year was 909,858, compared with 765,161 for the same period of 1957-58. January tonnage was 107,785, compared with 98,430 the previous January.

Each month of the current fiscal year has shown a sharp improvement. August, 1958, with a 30% boost over the previous August, showed the biggest increase.

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Dependability, fast mixing action, and low cost operation make Brower the WORLD'S LARGEST SELLING MIXER! Brower action WHIRLS the ingredients instead of just stirring or tumbling them . . . produces the most thorough mix you can get. Every sack has the same even mixture.

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HILLTOP LABORATORIES — Aids for Poultry — Minneapolis 1, Minnesota

Boost in 'Complete Integration' Seen in Georgia Operations

TIFTON, GA.—More broilers and more pigs will be grown out in Georgia this year under the "completely integrated" plan than at any time in the past, according to information given by agricultural specialists speaking in Tifton at the recent Agricultural Conference of Georgia Bankers.

The banking executives were seeking information about the farm situation which would enable them to understand the needs in connection with farm credits under present conditions.

Broilers: One specialist told the banking officials that feed dealers and some of the processors are growing their own broilers and are hiring workmen to take care of the production operations. They said this condition arose because dealers who contracted with others to grow broilers lost money when the price of poultry dropped last year. A prediction was made that the situation would continue toward more complete integration in the future.

It was also pointed out that while more broiler producers now are working cooperatively, some are growing and marketing their broilers independently.

Discussion brought out that the rapid expansion of broiler production which has skyrocketed Georgia to top place in the nation in broiler production has also made efficient management more important than ever. More changes and adjustments must be made as time goes on, it was said.

The speakers predicted that Georgia will continue to hold top place in poultry production. They also pointed out that egg production is expanding in the state. There was a time when Georgia people brought the greatest portion of their eggs from out of the state, but this situation no longer exists. Now Georgians are shipping large quantities of eggs each year.

Pig Contracts: Contract farming is becoming more and more evident in pig and hog production, the specialists pointed out, and the trend in hogs is also toward complete integration. One speaker said 12,000 pig parlors are now being operated under some form of integration. In some instances the farmer has a contract with packers or feed dealers, and in other instances the feed dealers or the packers are growing out hogs with hired personnel.

It was predicted that contract farming in swine would be increased in the near future.

One speaker said beef cattle are being grown under contract in Alabama, but he said he knew of no operation of this kind in Georgia.

J. W. Fanning, head, department of agricultural economics, University of Georgia, said production of beef, hogs, broilers and eggs is being increased in Georgia. He added that this is the first year he has ever known all of these products being on the increase in the same year.

Dr. Nicholas Nyaradi

SPEAKER — Dr. Nicholas Nyaradi, director, Institute of International Studies, Bradley University, will talk on "Free Enterprise or Disaster" at the American Feed Manufacturers Assn. convention in Chicago May 11-13. Dr. Nyaradi was executive director of one of the largest banks in Hungary and active in anti-Nazi work during World War II.

SELL FEED STORE

WATERFORD, CAL.—The Waterford Feed Store, a retail establishment, has been sold by H. E. Monk and Bentley Monk to Phillip H. Stine.

FEEDSTUFFS reprints

The following reprints of articles which have appeared in Feedstuffs may be obtained on order from Feedstuffs' Reader Service Department:

1. **Use of Linear Programming in Feed Manufacturing**—A series of seven articles—by Dr. R. F. Hutton, Pennsylvania State University **$1.00**
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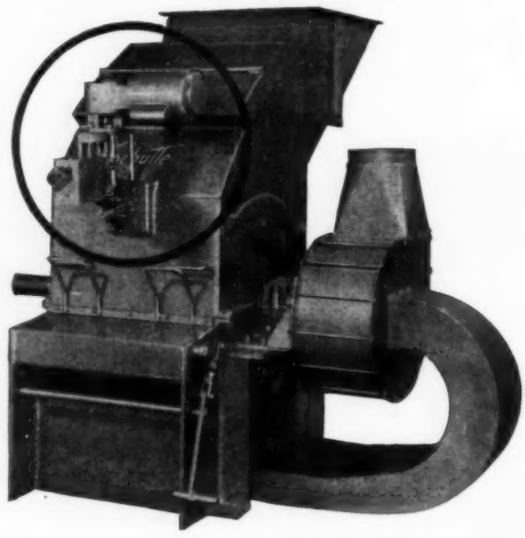

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Screens can be changed instantly without stopping the mill or raising the top, saving man hours and power costs. You don't need a separate crusher or feeder, because the new Schutte Feed Control replaces both, eliminating maintenance and replacement costs. With uniform feed flow assured, there can be no power overloads, lowering your costs still further and providing valuable protection for your motor.

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TABLE 1. Plant Acreages, 1958 and Indicated 1959

Crop	1958	Indicated 1959	1959 as % of 1958
	000's omitted		%
Corn, all	74,654	83,921	112.4
All spring wheat	12,343	13,405	108.6
Durum	947	1,273	134.4
Other spring	11,396	12,132	106.5
Oats	38,430	35,998	93.7
Barley	16,268	17,093	105.1
Flaxseed	4,014	3,678	91.6
Sorghums for all purposes	21,176	20,440	96.5
Soybeans*	24,900	23,172	93.1
Peanuts*	1,755	1,702	97.0
Hay**	73,033	70,499	96.5

*Grown alone for all purposes.
**Acreage harvested.

PLANTING

(Continued from page 1)

would produce 3.3 billion. Last year's production was 3.8 billion as a result of excellent growing conditions.

Idled Land Returns

The gain in corn acreage of some 9.3 million acres appears to have resulted primarily from the return to corn production of more than 6 million acres taken out of corn last year for participation in the acreage reserve.

Another part of the increase appears to be a shift from soybean acreage to corn. USDA officials had recommended a new, lower level of support for beans at $1.85 bu. as a level which would retain bean acreage and prevent the shift to corn.

The USDA was not alone in what appears to be an error, for some important trade sources had forecast that bean farmers, stimulated by successive years of good soybean prices and the impulse of a new and enlarging crop, would probably maintain soybean acreage even in the good Corn Belt states as a second crop and a hedge against corn crop trouble.

However, top USDA officials—while not criticizing the intended plantings report—say they believe the Corn Belt farmer may modify his announced intentions prior to the planting season and grow more soybeans than he now intends. Soybean intentions, as reported by USDA, are 23 million acres, a reduction of about 7% from 1958.

It is noted that the soybean acreage reduction and the corn acreage increase both are sharpest in the Corn Belt states. Some observers see this as a refutation of the idea that the bean crop would be maintained, if only on the basis of acceleration of farmer interest in this crop.

Possible Changes

Reports here also indicate that USDA officials hope farmers may revise their ideas on soybean production prior to planting time when the farmers see the potentially huge corn crop and, more particularly, when the pig crop outlook is made generally public. The pig crop outlook indicates an excellent demand for oilseed protein supplies. Furthermore, USDA officials say that the bean crop carryover for this year will not exceed 70 million bushels and may fall as low as 60 million.

USDA officials previously told this reporter they do not plan to put CCC stocks of old-crop beans in the market after the harvest this year during October and November, thereby taking the load of the carryover off the post-harvest marketing.

Using the 1954-58 average yield per acre, by states, this year's intended acreage would indicate a crop of about 475 million bushels, compared with 1958 production of about 574 million. Basing the output on the 1958 yield of 23.1 bu., the forecasted acreage for beans would amount to slightly more than 520 million bushels.

Neither of these totals, when added to a carryover of 70 million bushels, looks particularly huge in the face of the expanding pig crop plus the heavy output of poultry. Even a 600-million-bushel potential total soybean supply for the next crop year is not seen as unmanageable in view of this expanding demand for oilseed protein for animal feeding and the export market.

Benson Criticized

Critics of the Benson administration see the intentions report as a full repudiation of the Benson price support theory that lower levels of support do not cut back production.

Such a conclusion does not seem to be justified. The corn price support this year without acreage controls is generally high for about 85% of the corn crop. The higher support can be seen only as an incentive to expand acreage.

Beans, which ordinarily compete with corn for land in the better Corn Belt acreage, have a lower level of acreage intended. In this case, the price support level was reduced and acreage was reduced. Facing a choice between corn and beans, the Corn Belt farmer apparently went for corn as the better income potential.

In the case of the other feed grains —oats, barley and sorghums—it is difficult to diagnose the changes shown in the crop report. Oats acreage is down sharply. Barley has increased slightly, with the most significant changes in the big northwest producing states. What influenced such a change in those states is uncertain except for the inference that this increase may have been prompted by the export outlook of the West Coast in recent years under PL 480.

Sorghums

The small decline in sorghum acreage despite a sharp drop in the level of price support for that crop in 1959 seems to refute sorghum area Congressmen who protested the new level of support. It appears that the sorghum farmers are not too unhappy with the currently lower level of support.

It would seem premature for the Benson critics to jump to any conclusions. The issue is not clear cut.

Livestock Price Drop

However, one danger appears to be imminent. That is the prospect for major price declines in animal products next year. An increase of 10% in the spring pig crop is forecast in the nine major hog-producing states, with another increase in the fall.

This increase appears to confirm the corn crop planting intentions. And if all the best of intentions and conditions are attained in 1959, it would seem that hog prices are definitely destined for a decline through early 1960.

California Group Plans Commodity Rate Talks

SACRAMENTO — The California Hay, Grain & Feed Dealers Assn. is planning a special meeting to consolidate industry ideas on proposed changes in minimum commodity rates, rules and regulations for grain, grain products and related articles under California Public Utility Commission case No. 5432.

The association, along with the Los Angeles, San Francisco and Stockton grain exchanges, has appeared at two of the three meetings held by the commission. The final series of hearings will be held in San Francisco April 7-9.

Objections have been entered by the association to a proposed $2 charge for inspection stops, the definition of a field pickup and to the general increase in rates.

As an illustration of proposed rate increases, for a distance of more than 90 miles but not more than 100 miles the proposed figure would be 36¢ per 100 lb. in the 10,000-lb. minimum category, instead of the present rate of 31¢. For a minimum weight of 20,000 in the same distance bracket the proposed rate is 24¢, compared to the present rate of 19¢. In the 30,000-lb. category the proposed rate for the same mileage is 22¢ for package and 21¢ for bulk, compared to the current rate of 17¢.

TABLE 1. Grain and other concentrates fed to milk cows on farms where milk or cream was sold and on farms where milk was produced for home use only.

State and division	On farms where milk or cream was sold			On farms where milk was produced for home use only		On all farms where milk was produced	
	Fed per 100 pounds milk	Fed per cow	Total fed	Fed per cow	Total fed	Fed per cow	Total fed
	Pounds	Pounds	1,000 tons	Pounds	1,000 tons	Pounds	1,000 tons
Me.	31	2,130	98	1,480	6	2,070	104
N. H.	27	1,800	46	1,300	2	1,780	48
Vt.	28	1,860	842	1,330	8	1,860	844
Mass.	29	2,270	110	1,480	3	2,240	113
R. I.	28	2,330	17	1,480	1	2,250	18
Conn.	30	2,280	106	1,520	3	2,250	109
N. Y.	30	2,310	1,457	1,510	14	2,300	1,471
N. J.	31	2,560	171	1,590	3	2,530	174
Pa.	33	2,980	1,057	1,570	33	2,940	1,090
N. Atl.	30.7	2,886	3,304	1,517	67	2,853	3,371
Ohio	32	2,210	829	1,540	29	2,180	858
Ind.	32	2,330	572	1,680	20	2,300	592
Ill.	32	2,280	779	1,610	28	2,250	807
Mich.	29	2,130	784	1,500	17	2,110	801
Wis.	28	2,260	2,512	1,430	5	2,260	2,517
E. N. Cent.	29.6	2,283	5,475	1,575	100	2,296	5,575
Minn.	29	2,120	1,402	1,580	10	2,110	1,412
Iowa	33	2,150	990	1,640	27	2,130	1,017
Mo.	35	1,790	612	1,410	53	1,750	665
N. Dak.	29	1,580	243	1,880	10	1,560	253
S. Dak.	31	1,590	217	1,150	9	1,560	226
Nebr.	29	1,630	293	1,260	13	1,610	306
Kans.	32	1,700	310	1,340	20	1,670	330
W. N. Cent.	31.1	1,988	4,067	1,390	142	1,898	4,209
Del.	33	2,140	30	1,490	2	2,060	32
Md.	33	2,250	840	1,510	12	2,200	852
Va.	31	1,880	264	1,310	54	1,710	318
W. Va.	30	1,450	93	1,060	23	1,360	116
N. C.	36	1,960	803	1,450	107	1,760	910
S. C.	41	1,880	76	1,210	38	1,590	114
Ga.	47	2,120	171	1,350	87	1,780	258
Fla.	75	4,180	376	2,000	34	1,830	410
S. Atl.	40.5	2,258	1,455	1,379	357	2,006	1,812
Ky.	30	1,710	387	1,320	75	1,630	462
Tenn.	37	1,550	376	1,350	82	1,490	458
Ala.	49	1,810	147	1,390	112	1,600	259
Miss.	49	1,570	825	1,200	115	1,480	940
Ark.	44	1,740	173	1,410	65	1,640	238
La.	49	1,640	143	1,090	66	1,480	209
Okla.	40	1,890	299	1,410	49	1,790	348
Tex.	48	2,850	534	1,690	181	2,080	715
S. Cent.	42.5	1,798	2,824	1,364	739	1,668	2,963
Mont.	26	1,480	58	1,040	6	1,480	64
Idaho	30	1,500	152	1,040	5	1,470	157
Wyo.	23	1,360	21	970	3	1,310	24
Colo.	29	1,840	112	1,480	10	1,790	122
N. Mex.	26	1,470	25	1,040	6	1,350	31
Ariz.	23	1,930	44	1,210	3	1,860	47
Utah	23	1,750	80	1,190	5	1,710	85
Nev.	19	1,310	8	680	1	1,210	9
Wash.	26	2,010	232	1,310	13	1,950	245
Oreg.	26	1,660	138	1,130	8	1,620	146
Calif.	25	2,210	932	1,330	17	2,180	949
West.	26.8	1,940	1,808	1,195	77	1,892	1,879
U. S.	31.4	2,079	18,327	1,379	1,482	2,083	19,809

FORMULA FEED

(Continued from page 8)

the south central, more than a fourth in the north and south Atlantic regions and about an eighth in the West.

USDA noted that the average value per 100 lb. of grain and concentrates fed to milk cows nationally was $2.89, down 4% from a year earlier and the lowest since 1945. By states, the annual average value per cwt. ranged from $3.97 in Rhode Island down to $1.66 in North Dakota.

It also was pointed out that dairy product-feed price ratios for the entire country advanced in 1958. The U.S. milk-feed price ratio averaged 1.41 in 1958, the highest since 1945.

TABLE 2. Individual feeds as percentage of the total concentrate ration fed to milk cows in herds kept by dairy reporters, by states, 1958.

(Based on reports of rations fed on May 1 and Nov. 1. Several minor states not shown separately are included in regional and U.S. averages.)

(Percent)

State and division	Corn	Small grains			Oil seeds and oil-seed meals				Other millfeeds		Commercial mixed feed	Misc. other
		Oats	Barley	Wheat	Cottonseed meal	Cottonseed	Linseed meal	Soybeans or S. B. meal	Gluten feed or meal	Wheat bran, shorts		
Me.	-	1	-	-	-	-	-	-	-	-	95	4
N. H.	-	-	-	-	-	-	-	-	-	-	93	7
Vt.	-	1	-	-	-	-	-	-	1	-	93	5
Mass.	-	1	-	-	-	-	-	-	1	-	83	15
Conn.	-	-	-	-	-	-	-	-	-	-	89	11
N. Y.	8	17	2	-	-	-	1	1	1	2	62	6
N. J.	12	5	7	1	-	-	-	1	-	1	67	6
Pa.	25	20	5	1	-	-	-	3	1	2	40	3
N. Atl.	12.1	14.3	2.8	.4	-	-	.4	1.5	.9	1.6	60.6	5.4
Ohio	56	22	1	1	-	-	1	4	1	2	9	3
Ind.	62	21	1	-	-	-	-	2	-	2	3	9
Ill.	56	28	1	-	-	-	1	2	-	2	8	2
Mich.	48	35	3	1	-	-	-	3	-	1	6	3
Wis.	36	42	1	-	-	-	4	2	1	4	7	3
E.N.Cent	46.3	33.8	1.3	.3	-	-	2.1	2.4	.6	2.8	6.9	1.5
Minn.	50	37	1	-	-	-	1	2	-	2	6	1
Iowa	62	26	-	-	-	-	1	2	-	1	6	2
Mo.	33	9	3	1	1	-	-	3	-	9	36	5
N. Dak.	5	76	11	1	-	-	-	1	-	-	2	4
S. Dak.	39	48	3	-	-	-	-	1	-	3	2	4
Nebr.	52	19	3	-	-	-	-	2	-	2	6	16
Kans.	28	16	11	-	1	-	1	1	-	8	14	22
W.N.Cent	45.2	30.1	2.7	.2	.2	-	.7	2.1	-	3.2	10.7	4.9
Del.	34	11	12	-	1	-	-	4	-	1	32	5
Md.	34	14	8	1	-	-	1	3	-	4	29	6
Va.	25	6	9	2	1	1	-	1	-	2	49	4
W. Va.	25	4	1	-	-	-	-	1	-	2	63	4
N. C.	23	17	5	1	5	1	-	2	-	2	41	3
S. C.	23	14	1	-	7	1	-	2	-	1	46	5
Ga.	25	9	-	-	5	1	-	2	-	1	51	6
Fla.	5	1	-	-	1	-	-	1	-	1	40	51
S. Atl.	22.1	8.3	4.0	.7	2.1	.5	.1	1.7	-	1.9	48.9	16.7
Ky.	60	3	5	1	1	-	-	4	-	3	21	2
Tenn.	49	6	1	2	4	-	-	3	-	3	27	5
Ala.	51	3	-	-	11	2	-	1	-	3	21	8
Miss.	53	7	-	1	12	2	-	4	-	1	17	3
Ark.	15	5	-	1	4	1	-	1	-	8	62	3
La.	17	4	-	1	8	1	-	2	-	4	56	7
Okla.	7	17	6	1	4	1	-	1	-	12	41	10
Tex.	14	10	1	-	7	1	-	-	-	7	53	7
S. Cent.	33.5	7.4	2.0	.8	5.7	.8	-	2.0	-	5.3	37.0	5.5
Mont.	1	33	40	1	-	-	-	-	-	3	16	6
Idaho	3	27	30	11	-	-	-	-	-	3	18	8
Wyo.	1	27	52	-	-	-	-	2	-	1	15	2
Colo.	25	16	29	1	2	-	-	1	-	2	13	11
Ariz.	-	-	12	-	6	1	-	-	-	1	78	2
Utah	1	9	48	4	1	-	-	-	-	3	27	7
Wash.	1	12	3	-	-	-	-	-	-	5	75	4
Oreg.	1	15	11	2	-	-	-	-	-	5	61	3
Calif.	1	2	7	-	2	-	1	-	-	5	68	14
West.	2.7	8.8	13.6	1.4	1.5	-	.5	.1	-	4.4	56.3	10.7
U. S.	32.1	21.8	3.4	.5	1.1	.1	.9	1.9	.3	3.0	28.8	6.1

The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

Boston: Demand fair; supply adequate; 600 D, 1,500 A 17½¢ lb.; 300 D, 2,250 A 18¢; 300 D, 1,500 A 16½¢; 300 D, 750 A 14¾¢; 600 D, 3,000 A 20¢; 300 D, 3,000 A 19½¢; 75 D, 750 A 14½¢.

Denver: Demand fair; trend steady; supply ample; 300 D, 2,250 A 22¢.

Chicago: Demand fair; supply adequate; straight A feeding oil, with 10,000 units vitamin A per gram 7@7½¢ a million units of vitamin A, l.c.l., packed in 55 gal. drums, f.o.b. Chicago, drums included.

New York: Demand fair; trend steady; supply limited; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 13⅛@15½¢, 1,500 A 15½@17¢, 2,250 A 17½@20¢, 3,000 A 19@21¢; 600 ICU, 1,500 A 16@18¢, 2,250 A 18@19½¢; f.o.b. Massachusetts, New York or Pennsylvania.

Minneapolis: 10,000 A 35¢ lb.; 300 D, 2,250 A 21½¢ lb.; 300 D, 1,500 A 20½¢ lb.; 300 D, 75 A 18½¢ lb.

ALFALFA MEAL

Ft. Worth: Demand good on dehydrated, slow on suncured; supply sufficient; dehydrated, 20% protein, 150,000 A $67 truck; 17% protein, 100,000 A $64, delivered Ft. Worth area, truck; rail $66; suncured 13% No. 1 ¼-in. grind $39@40, truck or rail.

New Orleans: Demand good; trend unchanged; supply light; vitamin A, 17% $81@83; pellets $77@79.

Philadelphia: Demand slow; supply fair; 17% dehydrated $80.

Portland: Demand slow; supply ample; trend unchanged; suncured $40; dehydrated $68.50.

Boston: Demand fair; supply adequate; dehydrated, 17% $78.50; suncured, 13% $50.

Denver: Demand fair; trend steady; supply ample; dehydrated $52.

Los Angeles: Demand fair; trend steady; supply adequate; dehydrated meal, 17% protein, 100,000 A $51, bulk; dehydrated pellet meal, 17% protein, 100,000 A $53 bulk; suncured meal, 15% protein $42@43 bulk; suncured crumbles, 15% protein $44@45 bulk.

Chicago: Demand and supply fair; 17% dehydrated, with 100,000 units vitamin A guaranteed, no offerings; 13% No. 1 fine ground $51@52.

Kansas City: Very good demand; trend steady to stronger; supply tightening even further; dehydrated alfalfa meal with 17% protein and 100,000 units vitamin A guaranteed on arrival; reground pellets $65 sacked, greased; meal $67 sacked, pellets $66 bulk; 18% protein 125,000 units A meal $69 sacked; non-guaranteed A meal of 15% protein $52 sacked; suncured alfalfa demand is slow, prices steady, supplies generally adequate although good quality fine ground is not readily available; No. 1 fine ground $35, No. 1 ¼-in. $33@33.50, No. 2 ¼-in. $30.50@31, sacked.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $78.50.

St. Louis: Demand slow; trend steady; supply ample; suncured, 13% fine $39; dehydrated, 17%, 100,000 A $70.

Buffalo: Demand and supply poor; trend higher; $82, Boston.

Minneapolis: Tight supplies; demand about equal; steady trend; 17% alfalfa meal with 100,000 units vitamin A, reground pellets $70; oiled reground $72; bulk $3 less.

Memphis: Dehydrated, 17% protein, guaranteed 100,000 units vitamin A $73.

Seattle: Demand fair; trend steady; supply good; 15% protein suncured $44, truck loads; 136,000 A unit dehydrated $69, truck loads.

ANIMAL FAT (STABILIZED)

St. Paul: Very good demand; limited trading due to lack of supplies; strong pricing continues at 7¼¢ lb., f.o.b. producer's plant, for bleachable fancy tallow.

Kansas City: Demand slow from feed mixers; trend steady; supply adequate; prime tallow 7@7¼¢ lb., tank car.

Ft. Worth: Demand good; supply rather tight; prime tallow, tank cars 7¼¢ lb.; drums 8¾¢ lb., f.o.b. north Texas packing plants with returnable drums.

Boston: Demand good; supply adequate; tallow 7¼¢ lb.; yellow grease 6¾¢ lb.

San Francisco: Demand fair; supply ample; bleachable fancy 7¼¢ lb.; yellow grease 7¼¢ lb.

Chicago: Demand good; supply short; bleachable fancy tallow, tank truck or carlots 7¼¢ lb.; yellow grease 6¾@7¢ lb.

Louisville: Demand and supply good; trend firm; bleachable fancy 7¼¢ lb.; white tallow 7¼¢ lb.; yellow grease 6¼¢ lb.

New Orleans: Demand fair; trend steady; supply adequate; 6½@7¢ lb., tank cars.

Atlanta: Good demand; steady trend; supply barely ample; 6¾@7¢ lb., bulk.

BARLEY FEED

New Orleans: Demand slow; trend unchanged; supply adequate; $64.50@65.50.

Philadelphia: Demand slow; supply fair; pulverized $51.50.

Portland: Demand slow; supply ample; trend unchanged; rolled $63, ground $61.

Ogden: Supply average; rolled $50@55; whole barley $42@47.

Boston: Demand slow; supply good; $48.50.

San Francisco: Demand fair; supply ample; rolled $65.50, ground $64.50.

Los Angeles: Demand slow; trend unchanged; supply adequate; standard rolled $3.30 cwt.; standard ground $3.30 cwt.

Baltimore: Demand quiet; supply adequate; $48.50.

Chicago: Demand quiet; supply adequate; $38.

Milwaukee: Demand good; supply fair; needles $1.02@1.11 cwt.; ground screenings $25.

Seattle: Demand fair; trend easy; supply good; $50.50, bulk, truck lots.

BENTONITE (SODIUM)

Cincinnati: Demand steady; supply adequate; f.o.b. Cincinnati, minimum 30-ton carlots: 80 granular $31.50; 200 mesh fine $31.

Denver: Demand fair; trend good; supply ample; $21.

Chicago: Demand steady; supply adequate; f.o.b. Wyoming and South Dakota shipping points; granular 30 mesh $16.50; fine granular, 80 to 100 mesh $13.75; powder, 200 mesh $13.50, f.o.b. Belle Fourche, S.D., minimum 30-ton carlots, 80 granular $13.50 net; 200 mesh fine $13.25 net.

BLOOD FLOUR

Louisville: Demand fair; trend steady; supply good; $120.

BLOOD MEAL

Louisville: Demand reasonable; trend firm; supply good; $120.

New Orleans: Demand slow; trend unchanged; supply ample; $120@125.

Portland: Demand slow; trend lower; supply ample; $115.

Ogden: Supply average; $110 in 100-lb. bags.

San Francisco: Demand good; supply tight; $8 a unit of ammonia.

Los Angeles: Demand fair; trend unchanged; supply limited; $7.50 a unit of ammonia.

Chicago: Demand fair; supply light; $140@142.50 guaranteed 80% protein.

BONE MEAL (STEAMED)

Cincinnati: Demand slow; trend easy; supply ample; $115.

Buffalo: Demand good; trend stronger; supply limited; $100.

Boston: Demand and supply steady; $90.

Denver: Demand good; trend strong; supply tight; $80, nominal, Bay Shore, Cal.

San Francisco: Demand good; supply ample; $75.

Los Angeles: Demand better; trend steady; supply tight; imported $73.50 in 20-ton lots.

Chicago: Demand good; supply light; $95.

Ft. Worth: Demand good; supply light; $90, f.o.b. Ft. Worth, local manufacture.

Louisville: Demand slow; trend steady; supply normal; $95@105.

New Orleans: Demand slow; supply light; trend steady; $95@105.

Seattle: Demand good; trend firm; supply limited; $87, ex-dock, truck lots.

BREWERS DRIED GRAINS

St. Louis: Demand good; trend steady; supply short; $50.

Milwaukee: Demand good; supply fair; $53.

Buffalo: Demand and supply fair; trend steady; $54.50, bulk, Boston.

Cincinnati: Demand poor; trend steady; supply adequate; $61.

Ft. Worth: Demand slow; supply moderate; 26% protein $59.80.

Louisville: Demand good; trend firm; supply ample; $54.

New Orleans: Demand fair; trend steady; supply ample; $56.50@57.

Philadelphia: Demand and supply fair; $60.

Boston: Demand fair; supply good; 22% $55; 26% $58.

San Francisco: Demand fair; supply ample; $54.

Los Angeles: Demand fair; trend unchanged; supply limited; $49.50 bulk, $53.50 sacked.

Chicago: Demand fair; supply adequate; 26% $51@52.

BREWERS DRIED YEAST

Buffalo: Demand excellent; trend strong; supply very limited; $10.65 cwt.

Louisville: Demand fair; trend steady; supply good; 10@10½¢ lb.

Portland: Demand good; supply ample; trend unchanged; 8½¢ lb.

Boston: Demand and supply steady; 11¢ lb.

Denver: Demand light; trend steady; supply ample; 9¢ lb., f.o.b. Golden, Colo.

San Francisco: Demand fair; supply good; 10¢ lb.

Los Angeles: Demand and trend steady; supply limited; 10¢ lb. in 5-ton lots; 11¢ lb. in 1-ton lots; 12¢ lb. in less than 1-ton lots.

Chicago: Demand good; supply limited; 10@11½¢ lb. in carlots; 10¾@12½¢ lb., l.c.l.

Cincinnati: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

Milwaukee: Demand good; supply limited; 10½@11½¢ lb. in carlots; 10¾@12½¢ lb., l.c.l.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New York: Carlots 9½¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10½¢ lb.; ton lots 11¢ lb., f.o.b. New Jersey.

St. Louis: Demand good; supply limited; 10¢ lb. in carlots; 11¢ lb. in ton lots; 12¢ lb. in less than ton lots.

Seattle: Demand slow; trend steady; supply ample; $12 cwt.

BUTTERMILK-CONDENSED

Chicago: Demand fair to good; supply adequate; $3.25@3.50 cwt. in carlots.

Boston: Demand slow; supply tight; 3½¢ lb.

San Francisco: Demand fair; supply good; $5 cwt.

Los Angeles: Demand fair; trend unchanged; supply adequate; 5½¢ lb. in 100-lb. lots; 4½¢ lb. in 500-lb. lots.

Louisville: Demand slow; trend steady; supply light; $4.25 cwt.

New Orleans: Demand slow; supply normal; trend steady; $4.25@4.30 cwt.

Philadelphia: Demand slow; supply light; $4.25 cwt.

Wichita: Demand good; supply insufficient; $2.90 cwt. in barrels.

Ogden: Supply average; $4.40, 100-lb. drum.

CALCITE CRYSTALS AND FLOUR

(All prices net, including freight)

New York: Crystals $15.28, flour $10.28.
Buffalo: Crystals $16.11, flour $11.11.
Toledo: Crystals $17.96, flour $12.96.
Boston: Crystals $16.53, flour $11.63.
Limecrest, N.J.: Crystals $10.50, flour $5.50.

CALCIUM CARBONATE

Cincinnati: Demand fair; trend steady; supply adequate; $8@9 cwt.

Los Angeles: Demand better; trend unchanged; supply ample; $10.25.

Chicago: Demand steady; supply adequate; fine grind, plain $9.54, 100-lb. bags; bulk, in hopper cars, fine grind $7.54; bulk in boxcars $8.04; granular grind $1 premium.

Minneapolis: Fine grind, 50-lb. bag $12.25, 100-lb. bag $11.50; bulk, boxcar $10; bulk hopper $9.50; coarse grind $1 premium, delivered Minneapolis.

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, truck lots.

CHARCOAL

Boston: Demand and supply steady; $100.

San Francisco: Demand steady; supply ample; $141.

Los Angeles: Demand fair; trend unchanged; supply ample; hardwood poultry $156 in less than ton lots; $144.40 in ton lots.

Chicago: Demand quiet; supply adequate; poultry charcoal $110 in 50-lb. multiwalls.

COCONUT OIL MEAL

Portland: Demand slow; supply ample; trend unchanged; $83.50.

San Francisco: Demand good; supply tight; solvent $85.50.

Los Angeles: Demand slow; trend unchanged; supply adequate; copra cake $80.50@82 bulk.

Seattle: Demand fair; trend steady; supply ample; $80, via truck (California).

COD LIVER OIL (FORTIFIED)

New York: Demand limited; trend steady; supply fair; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 14⅛@15½¢, 1,500 A 18⅜@20¢, 2,250 A 18½@21¢, 3,000 A 21½@23¢; 600 ICU, 1,500 A 17⅝@19¼¢, 2,250 A 20@22¢, 3,000 A 22@23¢; f.o.b. Massachusetts, New York or Pennsylvania.

Boston: Demand fair; supply adequate; 600 D, 2,250 A 19¢ lb.; 300 D, 3,000 A 20½¢; 300 D, 2,250 A 18¾¢; 600 D, 1,500 A 18¢; 300 D, 1,500 A 17¢.

CONDENSED FISH SOLUBLES

New York: Demand good; trend steady; supply tight; 5⅛@5¼¢ lb., f.o.b. eastern shore.

Boston: Demand active; supply scarce; 5¢ lb., nominal.

Denver: Demand fair; trend steady; supply ample; dried $182.40.

Los Angeles: Demand better; trend steady; supply light; 5¢ lb.

New Orleans: Demand light; supply limited; trend steady; 50% solid $107@110.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $57.80, meal $88.80.
Atlanta: Feed $63.98, meal $94.98.
Birmingham: Feed $62.64, meal $93.64.
Boston: Feed $62.84, meal $93.84.
Chicago: Feed $51, meal $82.
Cleveland: Feed $59.14, meal $90.14.
Denver: Feed $61.51, meal $92.51.
Ft. Worth: Feed $59.96, meal $90.96.
Indianapolis: Feed $56.36, meal $87.36.
Kansas City: Feed $51, meal $82.
Louisville: Feed $58.21, meal $89.21.
New Orleans: Feed $61.20, meal $92.20.
New York: Feed $62.43, meal $93.43.
Norfolk: Feed $61.71, meal $92.71.
Philadelphia: Feed $62.02, meal $93.02.
Pittsburgh: Feed $59.96, meal $90.96.
St. Louis: Feed $51, meal $82.

CORN OIL MEAL

Louisville: Demand dull; trend easy; supply light; $58.45, down $3.

COTTONSEED OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $71.50.

St. Louis: Demand slow; trend steady; supply limited; solvent $66.

Kansas City: Demand slow; trend steady; supply adequate; old process meal $64, sacked, Memphis; solvent meal $62.

Buffalo: Demand poor; trend steady to lower; supply adequate; $81, Boston.

Ft. Worth: Demand good; supply light; 41% old process $71, prompt; pellets $2 additional; cottonseed hulls $12@13.

Philadelphia: Demand slow; supply fair; $79.50.

Louisville: Demand fair; trend firm; supply normal; old process $70.50; new process $68.50.

New Orleans: Demand slow; supply adequate; trend steady; $75.50@76.50.

Wichita: Demand fair; supply sufficient; 41% old process $72.

Portland: Demand slow; supply ample; trend unchanged; $75.

Ogden: Supply normal; 41% $77@82.

Denver: Demand fair; trend steady; supply ample; $69.60.

San Francisco: Demand good; supply tight; 41% expeller $74.70; 44% $77.70.

Los Angeles: Demand fair; trend firmer; supply limited; $71@72, bulk.

Chicago: Demand and supply fair; hydraulic $64.50; solvent $62; basis Memphis.

Boston: Demand poor; supply ample; $80.

Memphis: Demand fair; trend steady; supply plentiful; prime 41% protein, old process $64; new process, 41% solvent $62.

Atlanta: Fair demand; steady trend; ample supply; 41% $67.

Seattle: Demand fair; trend easy; supply ample; 41% solvent process $82, truck lots.

CURACAO PHOSPHATE

New York: Trend steady; ground Curacao phosphate in 100-lb. bags $48, f.o.b. cars or trucks, New Orleans, Jacksonville, Fla., or Philadelphia.

D ACTIVATED ANIMAL STEROL

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 18¢ lb., warehouse.

New York: Demand and supply good; trend steady; price per lb. in 50- and 100-lb. bags or 100-lb. drums: 1,500 ICU 8@12¢ bagged, 12@13¢ drums; 3,000 ICU 13@17¢ bagged, 17@18¢ drums; f.o.b. or delivered basis Pennsylvania, Delaware or New York.

Kansas City: Demand fair; trend steady; supply adequate; 1,500 ICU 9⅝@10¢ lb.; 3,000 ICU 11½@12¢ lb. in ton lots or larger.

D ACTIVATED PLANT STEROL, POWDERED

Chicago: Demand good; supply adequate; 4,000,000 U.S.P. units per lb.: 15¢ lb. in ton lots; less than ton lots 17¢ lb.; 12,000,000 units per lb., 5 tons to a carload 28¢ lb., ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Tupelo, Miss.: Minimum phosphorus 13%, minimum calcium 31%, maximum fluorine .12%, $51 net ton, f.o.b. Tupelo in 100-lb. multiwall bags, $48 in bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum calcium 36%, maximum fluorine .18% $69.12 net ton, f.o.b. Wales in 100-lb. multiwall bags, $3 less in bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $71.50, net ton, f.o.b. Houston, 100-lb. multiwall paper bags; $68.50 in bulk.

Coronet, Fla.: Minimum phosphorus 17%, minimum calcium 34%, maximum fluorine .17%, carload $60, truck load $60.75, net ton, f.o.b. Coronet in 100-lb. multiwall bags, $57 and $57.75 in bulk.

Cincinnati: 18% phosphorus $81; 13% phosphorus $64.98, f.o.b. Cincinnati.

DICALCIUM PHOSPHATE

Chicago: Stock food grade, 18.5% phosphorus, 20,000 lb. or more $83.25 net ton in 100-lb. papers, basis Chicago Heights, Ill., or Nashville, Tenn.; less than 20,000 lb. $93.25; 21% phosphorus, 20,000 lb. or more $94.50, basis Chicago Heights and Nashville; less than 20,000 lb. $104.50; bulk boxcars or hoppers $3 net ton less than bagged material.

Bonnie, Fla.: Minimum phosphorus 18½%, granular $83.25; freight equalized with closest producing point, carload basis.

Texas City, Texas: 18.5% minimum phosphorus, 21% minimum calcium, 24% maximum, granular $77.70 net ton, f.o.b. Texas City in 100-lb. multiwall bags; bulk, boxcars and hoppers, $3 net ton less than bagged material.

Columbia, Tenn.: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $83.25, f.o.b. Columbia, in 100-lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Minneapolis: 18.5% phosphorus, 24% calcium granular or fine ground $94.10, delivered; $3 less in bulk.

Trenton, Mich.: Minimum phosphorus 18½%, maximum fluorine .03% guaranteed $83.25, f.o.b. Trenton in 100-lb. multiwalls; minimum phosphorus 21%, maximum fluorine .03% guaranteed $94.50, f.o.b. Trenton in 100-lb. multiwall bags.

Cincinnati: 18½% phosphorus $92@93.

Denver: Demand good; trend firm; supply ample; $92.80.

Portland: Demand slow; supply ample; trend unchanged; $115.

DISTILLERS DRIED GRAINS

Louisville: Demand good; trend steady; supply moderate; bourbon: light $58, dark $59, solubles $77.

New York: Demand good; trend steady; supply fair; light $58 bulk, Boston; dark $60 bulk, Boston, plus $5 sacked; solubles $83 sacked, Boston.

Cincinnati: Demand poor; trend steady; supply adequate; by truck $59.

Buffalo: Demand good; trend steady; supply fair; $64, bulk, Boston.

Philadelphia: Demand slow; trend unsettled; supply light; dark $67.

San Francisco: Demand fair; supply ample; solubles $85.

Boston: Demand good; light $68; medium dark $67; dark $69.

Seattle: Demand fair; trend steady; supply limited; $67, truck lots.

DRIED BEET PULP

Milwaukee: Demand good; supply fair; plain $54, molasses $54.

Buffalo: Demand and supply fair; trend steady; $60.50, Boston.

Boston: Demand good; supply adequate; $60.

San Francisco: Demand good; supply fair; $55.50.

Los Angeles: Demand slow; trend unchanged; supply limited; molasses $52.50@53.60, bulk.

Ft. Worth: Demand fair; supply sufficient; carlots, 50-lb. papers, March, plain or molasses $58.33, April $61.33, delivered Ft. Worth.

New Orleans: Demand fair; trend unchanged; supply sufficient; $57@58.

Portland: Demand good; supply limited; trend unchanged; $54.

Ogden: Supply average; $44@48.

Atlanta: Fair demand; steady trend; ample supply; $67.50.

Seattle: Demand good; trend firm; supply limited; $49, carlots.

DRIED BUTTERMILK

Milwaukee: Demand and supply fair; $10 cwt.

Buffalo: Demand excellent; trend firmer; supply limited; $11.55 cwt.

Louisville: Demand slow; trend steady; supply ample; 12@12½¢ lb.

New Orleans: Demand slow; trend unchanged; supply adequate; $12@12.50 cwt.

San Francisco: Demand fair; supply ample; 11¼¢ lb.

Los Angeles: Demand fair; trend unchanged; supply adequate; 11¾¢ lb.

Chicago: Demand fair; supply light; medium acid $11, sweet cream $11.50 cwt. in carlots.

DRIED CITRUS PULP

Buffalo: Demand and supply fair; trend higher; $37.50, f.o.b. Florida points.

Boston: Demand slow; supply ample; $37.50, f.o.b. Florida points.

San Francisco: Demand and supply fair; meal $54.

Los Angeles: Demand slow; trend unchanged; supply ample; orange pulp $42 bulk; lemon pulp $40 bulk.

New Orleans: Demand fair; trend steady; supply ample; $34@39, f.o.b. Florida.

Atlanta: Fair demand; steady trend; ample supplies of pulp, limited supplies of meal; pulp $35@40, f.o.b. Florida producing points; meal $30@35, f.o.b. Florida producing mills.

DRIED SKIM MILK

Cincinnati: Demand fair; trend steady; supply adequate; 10½@10¾¢ lb.

Milwaukee: Demand and supply fair; steady trend; $11 cwt.

Buffalo: Demand good; trend steady; supply ample; $10.65 cwt.

Louisville: Demand fair; trend steady; supply ample; 11½@12¢ lb.

New Orleans: Demand fair; trend firm; supply ample; $12@12.50 cwt.

Philadelphia: Demand slow; supply light; $12.50 cwt.

Portland: Demand slow; supply ample; trend unchanged; 13¢ cwt.

Ogden: Supply normal; $15.15, 100-lb. drum.

Boston: Demand good; supply short; 12¢ lb.

San Francisco: Demand and supply fair; 13¼¢ lb.

Los Angeles: Demand fair; trend unchanged; supply adequate; 14¢ lb. in less than ton lots; 13¾¢ lb. in ton lots.

Chicago: Demand fair; supply light; $11@11.25 cwt., in carlots.

Minneapolis: Fairly good demand for tight supplies; price firm at $11 cwt.

DRIED WHEY

Kansas City: Demand good; trend steady; supply light; $5.50 cwt., producers' points for regular or partially delactosed.

Cincinnati: Demand fair; trend steady; supply adequate; $6.15 cwt.

Boston: Demand steady; supply fair; 5½¢ lb.

San Francisco: Demand steady; supply good; $5.75 cwt.

Los Angeles: Demand better; trend unchanged; supply ample; $6.10 cwt. in carlots; $6.40 cwt. in l.c.l.

Chicago: Demand fair; supply tight; $5.50, f.o.b. plant.

Ogden: Supply normal; $6.90, 100-lb. bag.

Ft. Worth: Demand fair; supply adequate; carlots, standard $6, delivered Ft. Worth; $6.25 ton lots, f.o.b. warehouse Ft. Worth.

Louisville: Demand fair; trend steady; supply ample; 6@6¼¢ lb.

New Orleans: Demand fair; trend steady; supply adequate; $6@6.50 cwt.

Philadelphia: Demand slow; supply light; $6.50 cwt.

Portland: Demand slow; supply ample; trend unchanged; $7 cwt.

Minneapolis: Fair demand; fair supply; $5.50 cwt., f.o.b. producers' plants.

Seattle: Demand and trend steady; supply good; $6.40 cwt., ex-warehouse, l.c.l.

FEATHER MEAL (HYDROLYZED)

Ft. Worth: Demand excellent; supply limited; 85% to 87% protein $112.50, f.o.b. trucks, north Texas plant.

Boston: Demand good; supply scarce; $85, f.o.b. shipping points.

Los Angeles: Demand better; supply ample; trend steady; $1.25 a unit of protein.

Atlanta: Good demand; steady trend; ample supply; $105.50, f.o.b. Georgia and Alabama producing mills.

FISH MEAL

Boston: Demand active; supply short; $164, nominal.

Denver: Demand good; trend steady; supply tight; $2.40 a unit of protein, f.o.b. West Coast.

San Francisco: Demand good; supply tight; $2.35 a unit of protein.

Los Angeles: Demand steady; trend unchanged; supply light; local production, 60% protein $2.40 a unit.

Chicago: Demand good; supply tight; eastern menhaden fish meal, 60% protein $162; Gulf, no offerings; western blended, 60% protein $180, delivered Midwest; Canadian herring, 72% protein $2.20@2.25 a unit of protein subject to production.

Ft. Worth: Demand good; limited offerings for March arrival; 65% Peruvian $158 prompt, f.o.b. Houston.

Louisville: Demand slow; trend steady; supply light; $175.

New Orleans: Demand and supply light; trend steady; menhaden 60% $163@164; scrap 60% $158@159, f.o.b. Gulf.

Portland: Demand slow; trend lower; supply ample; $2.20 a unit.

Ogden: Supply normal; $2.20 a unit, f.o.b. Coast; 65% $172@174.

Cincinnati: Demand fair; trend steady; supply adequate; $164.

Milwaukee: Demand and supply fair; 60% $159.

Buffalo: Demand good; trend steady; supply ample; 60% protein menhaden $175 bulk, $180 sacked.

Minneapolis: Fair demand; adequate supply; steady trend; 60% blended fish meal $180, Minneapolis; 70% herring, $2.20 a unit of protein, f.o.b. West Coast, $2.25 for May-June.

Atlanta: Good demand; steady trend; limited supply; 60% menhaden fish meal $170@172.

Seattle: Demand fair; trend firm; supply good; $2.38 a unit protein, truck lots (Canadian production).

HAY

Cincinnati: Demand poor; trend steady; supply adequate; No. 1 timothy $24; No. 1 second cutting green alfalfa $31; mixed $27; wheat or oat straw $19.

Ft. Worth: Demand fair for alfalfa; practically nil for prairie and Johnson grass; supply sufficient; carlots, baled, No. 1 alfalfa $36@38, No. 2 $34@36; prairie No. 2 $26@28; No. 2 Johnson $24@26, delivered Texas common points.

Louisville: Demand dull; trend steady; supply ample; local hay, all varieties, No. 1 $25, No. 2 $23; straw, any variety $25.

Philadelphia: Demand slow; supply light; $32.

Wichita: Demand improved; supply ample; prairie $15; alfalfa $15@18.

Portland: Demand slow; supply ample; trend unchanged; $34.

Ogden: Supply average; $1@1.25 bale; $18 ton in the barn.

Boston: Demand and supply steady; No. 2 timothy $40@42.

Denver: Demand average; trend fair; supply ample; alfalfa baled $24@25 first and second cutting.

Los Angeles: Demand fair; trend unchanged; supply adequate; new crop, U.S. No. 1 $37.50@38.50; old crop, U.S. No. 1 $33@35, U.S. No. 2 leafy $30@32, U.S. No. 2 green $28@30, U.S. No. 2 $24@26.

Seattle: Demand and supply fair; trend steady; alfalfa, U.S. No. 2 green $35, truck lots.

HOMINY FEED

Chicago: Demand fair; supply good; $45@45.50.

Boston: Demand fair; supply adequate; $55.50.

Louisville: Demand dull; trend easy; supply light; $48.50.

New Orleans: Demand slow; supply fair; trend steady; $46@48.

Cincinnati: Demand fair; trend lower; supply adequate; $48.

Milwaukee: Demand good; supply fair; $45.

Kansas City: Demand slow; trend steady; supply adequate; yellow $36.50 bulk, $3.50 more for sacks; white 50¢@$1 less.

St. Louis: Demand slow; trend steady; supply adequate; yellow $45.

Buffalo: Demand and supply fair; trend steady; $51.50, bulk, Boston.

Memphis: Demand nil; trend steady; supply ample; white $46, yellow $48.

Seattle: Demand and supply good; trend firm; $55, carlots.

LINSEED OIL MEAL

Cincinnati: Demand poor; trend slightly higher; supply very limited; new process $93; old process $95.50.

Milwaukee: Demand good; supply fair; old process $86.50; new process $82.50.

Kansas City: Demand slow; trend steady; supply very tight; old process meal $83, bulk, Minneapolis; solvent meal $75@75.50, with the April market quoted at $74.

Ft. Worth: Demand fair; supply adequate; truck, old process $102; solvent $97.

Louisville: Demand poor; trend stronger; supply light; old process $96, new process $91.

New Orleans: Demand fair; trend steady; supply ample; $86@88.

Philadelphia: Demand and supply fair; trend unsettled; 34% $95, nominal.

Wichita: Demand slow; supply ample; 34% $86.

Portland: Demand slow; supply ample; trend unchanged; $85.

Boston: Demand fair; supply spotty; $94.

Denver: Demand fair; trend steady; supply tight; $93.50.

San Francisco: Demand fair; supply ample; $80.

Los Angeles: Demand fair; trend unchanged; supply scarce; local production, 29% protein $70, bulk.

Chicago: Demand fair; supply tight; solvent $79.50, expeller $84, basis Minneapolis.

Minneapolis: Production very slow; fair demand; some solvent meal available at $75.50 for April; May-June quoted at $70.50; expeller, last half May $76.

Seattle: Demand fair; trend firm; none available; $90, carloads, 34% protein.

MALT SPROUTS

Boston: Demand and supply limited; $42.50.

Chicago: Demand fair; supply adequate; No. 1 $41.

New Orleans: Demand fair; trend steady; supply adequate; $44@46.

Milwaukee: Demand good; supply fair; odd weights $37.50; even weights $39.50.

Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $43.

MEAT AND BONE MEAL

Buffalo: Demand fair; trend steady; supply ample; 50% meat scraps $100 bulk, $105 sacked.

St. Louis: Demand fair; trend firm; supply adequate; $105.

Cincinnati: Demand slow; trend easy; supply ample; 50% meat and bone scraps $97.50.

Kansas City: Demand better to the north of here but fairly active locally; trend steady; supply adequate; 50% meat and bone scraps $103.

New York: Demand poor; trend lower; supply fair; 50% $90.50, 55% $98, bulk; 50% $93.50, 55% $101 sacked.

Ogden: Supply average; $105, 100-lb. bags.

Portland: Demand slow; supply ample; trend unchanged; $2.05 a unit of protein.

Wichita: Demand moderate; supply sufficient; 50% $110, f.o.b. plant; 55%, no quotations, no offerings.

New Orleans: Demand good; supply ample; trend steady; $108@110.

Louisville: Demand fair; trend firm; supply good; $105@115.

St. Paul: Fair demand; adequate supplies; slightly weaker tone; 50% meat and bone meal $105@111.

Ft. Worth: Demand fair; supply adequate; meat and bone, 50% $97.50@100, f.o.b. or delivered Ft. Worth.

Chicago: Demand fair; supply light; 50% protein $95@105.

Los Angeles: Demand steady; trend unchanged; supply limited; 50% protein $2.05 a unit.

Denver: Demand good; trend up; supply below normal; 50% $100, bagged, truck lots; $97, bulk lots.

San Francisco: Demand good; supply ample; $1.95 a unit of protein, bulk basis.

Boston: Demand fair; supply ample; $1.60 a protein unit; converted 50% $92.50.

Seattle: Demand good; trend easy; supply ample; $105, ex-warehouse, 50% protein.

MILLFEED

Minneapolis: Very quiet market; price a little stronger for bran, unchanged for middlings; bran $43, middlings $42.50, red dog $46.

Kansas City: Demand fair; trend steady; supply adequate for most feeds, plentiful for bulk middlings; bran $39@39.75, shorts $41.25@42, sacked; bran $34.75@35.50, shorts $38@38.75, middlings $37.50@38.25, bulk.

Wichita: Demand fair for bran, strong for shorts; supply sufficient for bran, insufficient for shorts; basis Kansas City: bran $39@39.25, shorts $41.75@42; bran declined 75¢@$1, while shorts advanced 50@75¢, compared with the preceding week.

Ft. Worth: Demand fair; supply sufficient; carlots, burlaps, prompt, bran $47, gray shorts $49.50, bulk middlings $46, delivered Texas common points; 50¢ lower on bran and shorts; 50¢ higher on middlings, compared with previous week.

Chicago: Prices are virtually unchanged and trading activity was slow during the week ending March 18. Flour mill running time is thought to be slow enough to cause the supply to decrease, but buyers are not extending themselves and are taking day to day needs only. Quotations: bran $46.50@47, standard midds. $47, red dog $49.50.

Cincinnati: Demand fair; trend steady; supply adequate; bran and middlings $52.50.

St. Louis: Demand fair; trend steady; supply ample; bran $44.50@45, shorts $46.75@47.25, sacked; bran $39.75@40.25, shorts $43@43.50, middlings $42.50@43, bulk.

Memphis: Demand fair; trend steady; supply ample; wheat bran $46.80, gray shorts $49.80, standard midds. $49.80.

Boston: Demand cautious; supply spotty; bran $57.50, middlings $57.

Buffalo: Millfeed sales were quiet last week on hand-to-mouth buying from mixers and the country trade. There was no incentive for either to stockpile. Sacked bran was unchanged, bulk gained 50¢; sacked middlings declined $1, bulk was off 50¢; sacked red dog rose 50¢ and bulk gained $1. Quotations March 18: Sacked bran $47.50@48, bulk $43; sacked middlings $47.50@48, bulk $43; sacked red dog $50.50, bulk $45.50@46.

Philadelphia: Demand spotty; trend unsettled; supply fair; bran $56, standard midds. $56, red dog $58.50.

New York: Demand and supply good; trend upward; bran $56@56.50, standard midds. $56@56.50.

New Orleans: Demand good; trend strong; supply light; bran, sacked $52@52.75, bulk $47.50@48.25; shorts, sacked $52.50@53.25, bulk $50@50.75.

Louisville: Demand fair; trend fairly firm; supply ample; bran $50.10; mixed feed

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$51.85; shorts $54.10; middlings $54.30.

Denver: Demand fair; trend steady; supply ample; shorts $45; bran $42.75; mill run $44.

Seattle: Demand fair; trend steady; supply limited; $46, delivered common transit points, carlots.

Portland: Demand slow; trend lower; supply ample; $43.

Ogden: Supply normal; to Utah and Idaho: red bran and mill run $44, middlings $49; to Denver: red bran and mill run $51, middlings $56; to California: red bran and mill run $51.50, middlings $56.50, f.o.b. San Francisco and Los Angeles.

Los Angeles: Standard mill run $48@49, demand very slow, trend weaker, ample supplies; red bran $51.50@52, slow demand, easier trend, ample supplies.

San Francisco: Demand good; supply tight; millfeed $54; red bran $57.50.

MINERAL FEED

Sioux City: 50-lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.

Ogden: Supply average; $113 in 50-lb. blocks; $103, granular, 50-lb. bags.

Portland: Demand slow; supply ample; trend unchanged; $42.

Wichita: Demand moderate; supply sufficient; all-purpose with iodine, 50-lb. blocks $97.50, 100-lb. bags $92.50, f.o.b. plant.

Ft. Worth: Demand good; supply light; all-purpose granules $90, block $97; mineral phosphorus 6% granules $105, block $110; cattle-sheep mineral 7% phosphorus granules $100, block $107; hog mineral phosphorus 3½% granules $87, phosphorus 2% $77 (all in 50-lb. paper bags).

San Francisco: Demand steady; supply good; all-purpose with iodine $70.

Denver: Demand good; trend steady; supply ample; $155.

Seattle: Demand fair; trend steady; supply good; mixer mineral $48, ex-warehouse; all-purpose mineral $55, ex-warehouse.

MOLASSES

Los Angeles: Demand slower; trend unchanged; supply adequate; $22 bulk, f.o.b. tank cars; $22.25 bulk, f.o.b. tank trucks.

Minneapolis: Hand-to-mouth buying; ample supplies; 12¼¢ gal., New Orleans; $34 ton, tank trucks, delivered.

Memphis: Demand fair; trend steady; supply ample; blackstrap 12¼¢ gal., tank car, f.o.b. New Orleans.

Atlanta: Fair demand; steady trend; good supply; citrus molasses $20@22.50, bulk, f.o.b. Florida producing mills.

San Francisco: Demand and supply good; $22, f.o.b. cars, Richmond, Cal.

Denver: Demand fair; trend steady; supply ample; 12¼¢ gal., New Orleans; $20.90 ton; $22 ton, West Coast.

Boston: Demand steady; supply adequate; 16½¢ gal. in tank cars.

New Orleans: Demand fair; trend steady; supply adequate; 12½¢ gal., tank cars and trucks; 600-lb. customers' drums $8.33.

Louisville: Demand slow; trend steady; supply normal; tank car lots 12¼¢ gal., f.o.b. Gulf ports.

Ft. Worth: Demand good; supply sufficient; blackstrap 12½¢ gal., f.o.b. Houston; delivered Ft. Worth truck $28.50 ton, seller's market price on date of shipment.

Kansas City: Demand fair to good; trend steady to stronger with strength generated by reports that Cuban suppliers sold large quantities of molasses to most U.S. importers at 12¢, Cuban ports; supply adequate; 12@12¼¢ gal., mostly 12¢, tank car, New Orleans.

Buffalo: Demand and supply good; trend steady; 16½¢ gal., f.o.b. Albany.

Cincinnati: Demand fair; trend steady; supply adequate; 12¼¢ gal., New Orleans.

Milwaukee: Demand and supply fair; blackstrap 12½¢ gal., f.o.b. New Orleans.

St. Louis: Demand slow; trend steady; supply ample; 12¾¢ gal., New Orleans.

New York: Demand fair; trend steady; supply good; blackstrap 16¢ gal., tank cars, tank wagons, f.o.b. New York.

Seattle: Demand fair; trend easy; supply good; $22, f.o.b. Seattle, tank car lots or truck lots.

NIACIN

New York: Trend steady; $8 kilo, 10-kilo lots; $8.20 kilo, 5- and 2½-kilo lots; $8.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

OAT PRODUCTS

Cincinnati: Demand poor; trend steady; supply adequate; pulverized white oats $49@51.50, rolled oats $63.

Minneapolis: Demand improved slightly; ample supplies; steady trend; feeding rolled oats $77; feeding oatmeal $67.50; crimped $55; pulverized $45.50; reground oat feed $20.

Memphis: Demand poor; trend weak; supply plentiful; 3½% protein, reground oat feed $22.50.

Portland: Demand slow; supply ample; trend unchanged; rolled $65, ground $62, cleaned $65.

Philadelphia: Demand slow; supply fair; pulverized $55; Canadian oat feed $32.50; domestic oat feed $28.

Louisville: Demand fair; trend easy; supply normal; reground $25.10, rolled $30.80, feeding $76.30, pulverized $52.30, crimped $66.30.

Ft. Worth: Demand slow; supply sufficient; oat millfeed $50.70; reground oat millfeed 4% protein, sacked $31, 3% $28.70.

Chicago: Demand and supply fair; reground oat feed $16@17; fine ground feeding oatmeal $68@70; feeding rolled oats $75@78.

Los Angeles: Demand slow; trend unchanged; supply adequate; pulverized, local production $62.

Boston: Demand good; supply adequate; white pulverized $57.50; reground oat feed $21.

Seattle: Demand and supply fair; trend steady; $53, bulk, truck lots.

OYSTER SHELL

Los Angeles: Demand better; supply ample; trend steady; $14.80.

San Francisco: Demand fair; supply ample; local $15, eastern $26.

Boston: Demand and supply steady; $26 in paper.

Portland: Demand slow; supply ample; trend unchanged; western $34, eastern $36.50, granite grits $38, shell flour $24.

New Orleans: Demand good; trend firm; supply ample; $23.50@24.

Louisville: Demand good; trend steady; supply normal; in 80-lb. paper $23.45; in 50-lb. paper $23.70; in 25-lb. paper $25.95.

Cincinnati: Demand fair; trend steady; supply adequate; $24.45.

Seattle: Demand and trend steady; supply good; eastern $36, carlots.

PEANUT OIL MEAL

Milwaukee: Demand and supply fair; 26% $42.

Atlanta: Fair demand; steady trend; limited supply; 45% old process $62.50@63, f.o.b. Georgia and Alabama producing mills.

PEAT MOSS

New York: Demand good; trend steady; supply fair; Canadian, 7 cu. ft. bale, veneer wrapped $3.32, f.o.b.; German, 7½ cu. ft. bale $2.95, at dock, New York.

Portland: Demand good; supply ample; trend unchanged; $3 bale.

Philadelphia: Demand good; supply light; $2.95 bale, f.o.b. pier.

Chicago: Demand good; supply short; $3.85@3.95 standard 7½ cu. ft. bale.

Los Angeles: Demand good; trend steady; supply ample; Canadian, 6.1 cu. ft. bales $3.75.

San Francisco: Demand and supply fair; $3.65 bale.

Boston: Demand and supply steady; $3.15 bale in carlots.

Seattle: Demand fair; trend easy; supply good; $2.50 bale, truck lots.

POTASSIUM IODIDE, U.S.P.

Cincinnati: Demand good; trend steady; 90% KI in calcium stearate or carbonate mixtures, 250-lb. drums $1.36; 200 lb. in 100-lb. drums $1.35; 100-lb. drums $1.38; 25-lb. drums $1.41, f.o.b. Cincinnati.

Chittenango, N.Y.: Demand good; supply adequate; 90% KI stabilized with calcium stearate, 200 lb. in 100-lb. cartons $1.35; 100-lb. cartons $1.36, freight prepaid to destination.

POULTRY BY-PRODUCTS

Atlanta: Fair demand; steady trend; ample supplies; $105.50, f.o.b. Georgia and Alabama producing mills.

Los Angeles: Demand better; trend unchanged; supply ample; $1.85 a unit of protein.

Boston: Demand fair; supply tight; $108, f.o.b. shipping points.

Ft. Worth: Demand good; supply limited; 65% protein $115, f.o.b. north Texas plants.

RIBOFLAVIN

Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gram in less than ton lots in 3.36 to 16 gm./lb., 3¢ in ton lots or more; freight prepaid or paid to destination.

New York: Trend steady; feed grade (in feed supplements) 4½¢ gm. in 3.36 to 16 gm./lb. mixtures, freight prepaid or paid to destination.

RICE BY-PRODUCTS

Atlanta: Fair demand; steady trend; limited supplies; $48@50 for bran.

Ft. Worth: Demand slow; supply moderate; carlots, rice bran $38, f.o.b. south Texas rice mills; hulls $3, f.o.b. mills.

Los Angeles: Demand fair; trend unchanged; supply limited; California production, high fat content $59.

San Francisco: Demand good; supply ample; bran $45; polished $49.

SCREENINGS

Minneapolis: Supplies continue very limited; not much demand; lights $10@20; mediums $21@30; heavies $31@40; Canadian bulk $28; Canadian ground $37; flaxseed screenings $35; oil type flaxseed screenings $45, basis 15%.

Chicago: Demand slow; supply adequate; ground grain screenings $36@36.50; Canadian, bulk $31.50.

Ft. Worth: Demand slow; supply sufficient; ground grain $28.

Buffalo: Demand good; supply fair; trend steady to higher; ground, sacked $43.50, New York; unground, bulk $36.50, New York.

Cincinnati: Demand fair; trend steady; supply adequate; $26.40@30.40, Minneapolis; Canadian $39, bulk, Cincinnati.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

Atlanta: $20.40@20.67.
Buffalo: $25.31@25.45.
Chicago: $24.77@24.90.
Cincinnati: $23.47@23.60.
Des Moines: $25.23@25.35.
Kansas City: $24.83@25.
Memphis: $22.20@22.47.
Minneapolis: $25.92@26.06.
Philadelphia: $24.32@24.95.
St. Louis: $24.14@24.27.

SORGHUMS

Ft. Worth: Demand fair; offerings light; carlots, bulk, No. 2 yellow milo $2.32@2.33, delivered Texas common points.

Los Angeles: Demand steady; trend unchanged; supply adequate; milo $2.52½ cwt., bulk.

SOYBEAN OIL MEAL

Minneapolis: Market remained unchanged as demand and supply held about even; 44% quoted at $47.50@48, bulk, Decatur, for Minnesota shipment; 50% quoted at $57, bulk, Decatur, for Minnesota.

Atlanta: Fair demand; steady trend; good supply; 44% $70.

Memphis: Demand fair; trend steady; supply plentiful; prime 44% solvent $62.

Cincinnati: Demand fair; trend higher; supply adequate; $55, bulk, Decatur.

Milwaukee: Demand good; supply fair; $54, bulk, Decatur.

Kansas City: Demand slow; trend steady to weaker; supply adequate; meal for Kansas City and western shipment $50, bulk, Decatur; unrestricted meal $53.50@54.

St. Louis: Demand slow; trend lower; supply ample; 44% $54.

Chicago: Soybean oil meal lost more ground during the week ending March 18, as feed manufacturers resisted stocking up during the current fairly slow spell in feed sales. Futures markets also dipped, adding further to the decline. Forecasters see no improvement in demand until feed business picks up or the present supply of meal is reduced. Quotations: 44% protein soybean oil meal, bulk, unrestricted, basis Decatur $53@54; eastern restricted $49.50@50.50; 50% bulk, unrestricted $57.50@58; eastern restricted $54.50@55.

Los Angeles: Demand limited; trend easier; supply ample; $75.40@75.90, bulk.

San Francisco: Demand good; supply ample; $80.46.

Denver: Demand fair; trend steady; supply ample; $74.20.

Ogden: Supply normal; $81@86.

Portland: Demand slow; trend lower; supply ample; 44% f.o.b. Decatur.

Wichita: Demand good; supply adequate; 44% $68, 50% $76, f.o.b. Wichita.

Philadelphia: Demand and supply fair; trend unsettled; 44% $53, bulk, Decatur.

New Orleans: Demand fair; trend steady; supply adequate; $63@63.50.

Louisville: Demand slow; trend stronger; supply ample; $66.70.

Ft. Worth: Demand improved; supply sufficient; carlots, southern origin, 44% March $68.60, April $69.60, May-September $72; truck: $70.50@72; 50% March $78, April $79, May-September $80.

Boston: Demand slow; supply ample; 44% $51; 50% $55.50; both bulk, f.o.b. Decatur.

Seattle: Demand fair; trend firm; supply ample; $82, carlots.

TANKAGE

Chicago: Demand fair; supply light; 60% protein $100@110.

Cincinnati: Demand slow; trend easy; supply ample; 60% digester $105.

St. Louis: Demand fair; trend firm; supply adequate; $110.

St. Paul: Fair demand; adequate supplies; weaker trend; 60% digester $105@107.

Wichita: Demand moderate; supply sufficient; 60% $115, f.o.b. plant.

New Orleans: Demand fair; trend steady; supply adequate; $125@127.

Louisville: Demand and supply good; trend firm; 60% $110@120.

Ft. Worth: Demand fair; supply scarce; 60% digester $107, f.o.b. Ft. Worth.

Kansas City: Demand fairly good, especially to the north of this area; trend steady; supply adequate; 60% digester $105.50@108.

VEGETABLE AND ANIMAL FAT (HYDROLYZED)

Ft. Worth: Demand good; limited offerings; 6¾¢ lb., f.o.b. north Texas area.

VITAMIN E FEED SUPPLEMENT

Cincinnati: Demand good; trend steady; any quantity in 100-lb. drums $1.50; in 25-lb. drums $1.55; freight allowed to destination.

New York: Demand and supply good; trend steady; 100-lb. drums $1.50 lb., 25-lb. drums $1.55 lb., f.o.b. manufacturing plants, freight allowed and goods insured to destination.

Rochester, N.Y.: Demand and supply good; trend steady; 100-lb. drums $1.50 lb., 25-lb. drums $1.55 lb., f.o.b. manufacturing plants, freight allowed and goods insured to destination.

WHEAT GERM MEAL

Chicago: Good demand; limited supply; very strong trend; $86@86.50.

New Orleans: Demand and supply fair; trend steady; $79@81.

Buffalo: Demand and supply fair; trend steady; commercial grade $78, f.o.b. Buffalo.

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New Mississippi Plant

FOREST, MISS.—The Mississippi Agricultural & Industrial Board has issued a certificate authorizing the city of Forest to vote on a bond issue to finance a building for a new 500,000-capacity poultry processing plant for Ray Fechtel of Southeastern Hatcheries. The election is for a $500,000 issue. In the contract, Mr. Fechtel has agreed to pay back the bond issue plus interest, to buy at least 25% of his broilers from growers in the Forest area, and to average a payroll of $600,000 a year for the first 10 years.

USDA Announces Two Research Appointments

WASHINGTON—The U.S. Department of Agriculture has announced the appointment of Dr. W. Dayton Maclay as an assistant administrator of USDA's Agricultural Research Service.

Dr. Maclay has been director of USDA's Northern Utilization Research & Development Division, Peoria, Ill. In his new post he succeeds Dr. Guido E. Hilbert, who recently was appointed director of USDA's foreign research contracts and grants program.

Dr. Frederic R. Senti has been named acting director of the northern utilization research laboratory.

The appointments were made by Dr. Byron T. Shaw, administrator of the Agricultural Research Service.

Dr. Maclay has served continuously in utilization research since he came to USDA in 1940. He was on the staff of the western utilization research laboratory, Albany, Cal., until his appointment in 1954 as director of the northern laboratory.

A native of Auburn, Neb., Dr. Maclay received his B.S., M.S., and Ph.D. degrees from the University of Nebraska in 1928, 1929 and 1931. Following five years of teaching, he spent four years in Washington, D.C., in chemical research on carbohydrates for the U.S. Public Health Service.

Dr. Maclay is well known for his alfalfa and other research.

Dr. Senti entered federal service at USDA's eastern utilization research laboratory, Wyndmoor, Pa., in 1941. He transferred to the northern laboratory in 1948 where he has been serving as chief of the cereal crops laboratory.

MARYLAND

(Continued from page 1)

volving various levels of added fat in both pelleted and mash feeds show that levels up to 10-15% may be used successfully in practical feeds. G. F. Combs of the University of Maryland said 10% fat added to mash feeds improved 8-week gains but not in pelleted feeds. Feed conversions were improved in proportion to the increased energy potency of the feeds. Pelleting significantly improved growth rates when an average of only 2% fat was used.

Dr. Combs reported that protein levels may be lowered in broiler starter rations to give C/P ratios as wide as 48 to 1, provided that the remaining protein mixture furnishes adequate amounts of essential amino acids to support the energy content.

Dr. M. S. Cover, head of the department of poultry husbandry at the University of Delaware, urged special attention to good management practices in reducing the incidence of coccidiosis in poultry. Medicine alone cannot do the job, he said. He recommended: (1) Restricting visitors and visitation to poultry quarters; (2) clean, dry litter and houses not overcrowded; (3) eliminate the running around of "yard hens", and (4) medication in order to control the spread of coccidia.

In addition to Dr. Cover, guest speakers from other colleges included Dr. D. E. Becker, University of Illinois; Dr. H. R. Bird, University of Wisconsin, and Dr. N. L. Jacobson, Iowa State College.

An evening session to review field research reports in poultry and dairy husbandry was held March 19. The conference was concluded with a luncheon March 20 at which Horace J. Davis of the USDA spoke on Russian agriculture.

TENNESSEE EGG BILL

NASHVILLE, TENN.—A bill to regulate the sale of eggs in Tennessee and require labeling of eggs as to grade has been given final passage by the Tennessee legislature and sent to the governor for signature.

MOLASSES

(Continued from page 1)

discount for prompt shipment of ¼¢ gal.

Earlier reports indicated that Cuba had been holding out for the 11¢ price.

Foreign Agricultural Service estimates indicate that total Cuban production this year probably will exceed the 230.7 million gallons produced in 1958. The Cuban government recently decreed that the amount of blackstrap reserved for Cuban domestic use this year shall be 110 million gallons.

The USDA's New Orleans office also reported this week that Puerto Rican producers have contracted to sell an estimated 3.7 million gallons plus the entire crop (amount undetermined) from two additional sugar cane grinding plants at 10½ to 12¢ gal. gross price at port.

FARROWING

(Continued from page 1)

the spring farrowing intentions reported for these states as of Dec. 1, 1958. An 11% increase in spring farrowings had been indicated for these states, with a 13% increase indicated nationally.

June-August Intentions

The report issued this week also included information on farrowing intentions for June-August, the first half of the 1959 fall pig crop period. For this three-month period, farmers in the nine states indicated plans to increase the number of sows to farrow by 9%. This increase would come on top of a big increase in the size of the 1958 fall pig crop. (Also see accompanying table.)

Thus, as previously predicted, the hog expansion appears to be carrying over into 1960. Some economists have forecast that the really low hog prices will come in 1960, following up more moderate declines in 1959, unless farmers hold back.

Farrowings in all of the nine reporting Corn Belt states this spring are up from a year earlier, ranging from 4% in Wisconsin to 16% in both South Dakota and Kansas. An increase of 15% is indicated in Nebraska, 13% in Minnesota, 10% in Illinois, 9% in Iowa and 8% in both Ohio and Indiana.

December-February Farrowings: Sows farrowed in the nine reporting states during December, January and February totaled 1,857,000 head. 12% more than for the same period a year earlier, and 82% more than the average. These farrowings represent 33% of the estimated December-May total—the same percentage as a year earlier—and may be compared with the average of 18%.

March-May Intended Farrowings: Sows bred and intended for farrowing in March, April and May of this year in the nine states totaled 3,700,000 head, 9% more than a year earlier, but 20% less than the average. This is 1%, or 51,000 head, more than the farrowing intentions reported for these states in December.

June-August Intentions: Reported breeding intentions indicate 2,287,000 sows to farrow during the 1959 summer quarter (June through August). This would be an increase of 9%, or 195,000 head, from the 2,092,000 that farrowed during the same period a year earlier, and 39% more than the average.

Farmers in Kansas report 2% less sows for 1959 summer farrow than a year earlier, and no change from a year earlier is indicated in Nebraska. All other states show increases ranging from 2% in Indiana to 21% in South Dakota. Increases in other states are as follows: Minnesota, 20%; Iowa, 12%; Illinois, 10%; Ohio, 9%, and Wisconsin, 4%.

Number of Hogs and Pigs: The number of all hogs and pigs on farms March 1, 1959, in the nine states totaled 37,430,000 head. This is 12% more than the 33,497,000 head a year earlier.

All states show increases, ranging from 7% in Wisconsin to 25% in Minnesota. Hogs and pigs six months old and over totaled 12,577,000 head. 9% more than a year earlier.

The number of pigs under six months of age in the nine states was 13% larger than March 1, 1958. There was an increase of 15% in the 3-6 month age group, and an increase of 11% in the number under three months of age. A decrease in litter size for the December-February period, as compared with a year earlier, is indicated, with a decline in the western Corn Belt states more than offsetting small increases in the eastern Corn Belt states.

Severe weather conditions during the winter have been a factor in the decline in litter size in the western Corn Belt states.

The 12,947,000 pigs under three months old on farms March 1 accounted for 35% of all hogs, and the 11,906,000 head in the 3-6 month age group represented 32% of the total.

HOG PRICE

(Continued from page 1)

keting year of November-February.

It is believed in Washington that hogs may hold within a price range of $12-14 in this period, with breakthrough on the low side at best only temporary. Statistically, USDA senses a winter price low probably at $13.50, but agrees that this level may not now be sustained with the new emphasis on the summer farrowings.

A now indicated increase of 9% in June-August farrowing intentions has distorted previous estimates of the seasonal distribution of the pig crop by USDA.

However, USDA does not anticipate any price debacle late this winter, and reliable livestock officials at USDA now believe that prices will stabilize at the ranges reported above.

Wisconsin Egg Bill

MADISON, WIS. — A bill introduced in the Wisconsin Senate would require grading of eggs under state department of agriculture regulations. The measure also provides for an annual $5 license fee and payment of an inspection fee.

Sows Farrowing, Selected Corn Belt States

State	December through May total* Average 1948-57	1958	1959‡	1959 as % of 1958	June through August Average 1948-57	1958	1959†	1959 as % of 1958
	1,000 head			%	1,000 head			%
Ohio	389	341	368	108	153	165	180	109
Indiana	574	537	580	108	309	341	348	102
Illinois	926	902	992	110	289	418	460	110
Wisconsin	320	301	313	104	96	132	137	104
Minnesota	633	553	625	113	163	218	262	120
Iowa	1,881	1,629	1,776	109	492	609	680	112
South Dakota	317	292	340	116	36	58	70	121
Nebraska	448	360	414	115	69	99	99	100
Kansas	150	129	150	116	40	52	51	98
Total 9 states	5,637	5,044	5,558	110	1,646	2,092	2,287	109

*December preceding year.
†Number indicated by breeding intentions reports.
‡Sum of December through February farrowings and March through May intentions to farrow.

John C. Cowan

NEW DANNEN POST — John C. Cowan, deputy director of the Commodity Stabilization Service at Kansas City, has been appointed to the newly-created post of grain coordinator for Dannen Mills. Dwight L. Dannen, company president, said Mr. Cowan will be attached to the firm's Kansas City office. In his new position, he will be in charge of various phases of grain merchandising and storage operations. Mr. Cowan became a member of his county ASC committee in 1934. He later became a field man for the Kansas ASC, then a field representative for the Kansas City office of the Commodity Credit Corp., and in 1946 assistant director of the Kansas City office. He has been deputy director since 1950.

Georgia Report Shows Egg Production Boost

MACON, GA. An indication of the growth of egg production in Georgia is given in a recent report from the Georgia Department of Agriculture.

Reporting on egg receipts in the state for the month of February, 1959, the department said that of a total of 48,300 cases reported received in Atlanta, 28,800 were of Georgia origin, 17,500 were from Iowa and 2,000 from Minnesota.

A year earlier, Iowa producers shipped in 35,600 cases of eggs, while Georgia producers accounted for 19,700. A few scattered receipts were also from other points of origin.

Label Action Asked

SACRAMENTO — Richard Hanna, Orange County assemblyman, has introduced a bill in the California Legislature which would require hazardous livestock remedies and economic poisons to comply with new labeling requirements of the Health and Safety Code.

The bill would require that cautionary statements be printed at the top of the label on the front of the container or immediately above the manufacturer's or dispenser's directions for use. The statement would be printed in a type size having a direct relation to the size of the label and could not employ such words as "safe" or "safely" which might distract from the warning connotation of the statement.

AUTOMOBILE ACCIDENT

KANSAS CITY — Ray Cox, Acme Traffic Service, Kansas City, and Mrs. Cox were involved in a head-on auto collision the night of March 14 as they were returning home from Lawrence, Kansas. Mr. Cox received only a lacerated nose. His wife was hospitalized in the Warrensburg (Mo.) Medical Center with leg and other injuries, although she did not suffer any broken bones. She is expected to be hospitalized another week. The driver of the other car, who was alone, received only minor injuries. Both cars were demolished.

MILLERS

(Continued from page 7)

discussing these details and their importance in a sales program, Mr. Greenleaf told why customers quit buying at one mill or store and go to another. He said that two thirds of the customer shifts are due to poor service, indifference or discourtesy on the part of the sales personnel. The price level was a factor in less than one in each 10 losses of customer cases.

Leonard Thiele, Thiele Coal & Feed Co., Inc., North Tonawanda, N.Y., president of the association, presided at the meeting.

Harrie E. Yadon, administrative assistant to the resident engineer for the Niagara power project, was the luncheon speaker. He gave a detailed discussion of the project and reviewed its economic importance to the area.

"Why I Like My Boss" was the subject of an address presented by Paul S. Beaver, head of management training at Pennsylvania State University.

Mobile Milling

The pros and cons of mobile milling units were presented at an open forum which was the final item on the program. Mr. Thiele started the discussion with the question: "Have you lost business to mobile mill operators?" He said that there were approximately 100 of the units operating in New York state. The consensus of the millers was that there is a place for mobile units and that, generally speaking, the competition of a mobile mill in the miller's trade area sharpened competition. One miller volunteered the information that he had lost four or five customers to a mobile mill operator but that the competition "made us get out and sell" with the result that he has increased his tonnage.

Mobile mills are successful in grain surplus areas, the millers agreed, but of questionable value in regions deficient in home-grown grain. The operators of mobile units said that the skill and efficiency of the man operating the mobile mill is the key to whether the venture is profitable. The operator has to know what he's doing and you've got to pay him good wages.

A social hour sponsored by the allied trades association concluded the meeting.

OREGON MILL DESTROYED

NORTH PLAINS, ORE.—Fire destroyed a feed mill here recently. Approximately 300 tons of small grain and beet pulp were lost in the blaze. The loss was estimated at about $125,000, and was covered by insurance. Norman DeFrees, owner since 1948, said he could give no reason for the fire, but it was believed to have started in the rear of the structure, originally built in 1910.

CHICKS

(Continued from page 1)

South Central and Pacific. Cuts in chicken eggs in incubators March 1 were reported for all regions except New England, Middle Atlantic, West North Central and East South Central.

Broiler Chicks

Broiler-type chicks produced during February were up 8% from last year—148,228,000 compared with 137,226,000—and a larger March hatch than a year ago is in prospect. The USDA reported that the number of broiler-type eggs in incubators on March 1 was 15% larger than a year earlier. Only the Middle Atlantic region showed a reduction in incubator eggs March 1.

An 8% increase in broiler-type chick production was also reported for the first two months of 1959 together—300,102 compared with 277,203.

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending:	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
January 10	1,180	531	784	737	141	765	1,880	1,838
January 17	1,251	532	670	657	189	732	1,797	1,688
January 24	1,274	594	753	730	114	723	1,978	1,746
January 31	1,280	576	709	639	181	738	2,111	1,741
February 7	1,286	648	778	613	120	808	1,837	1,902
February 14	1,272	668	724	744	130	848	2,063	1,776
February 21	1,229	606	737	877	168	865	1,769	1,967
February 28	1,154	601	843	816	176	829	1,927	1,814
March 7	1,194	501	835	765	197	849	1,962	1,941
March 14	1,255	596	962	783	197	821	1,851	2,046

Week ending:	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
January 10	1,092	557	2,687	331	5,744	255	2,904	2,051
January 17	1,014	437	2,446	305	5,825	205	2,766	1,944
January 24	1,058	537	2,659	290	5,742	198	2,886	2,025
January 31	1,101	532	2,846	316	5,943	178	2,964	2,059
February 7	1,094	572	2,932	363	6,233	236	3,104	2,046
February 14	1,168	580	3,084	404	6,270	205	3,263	2,109
February 21	1,129	586	3,070	373	6,419	239	3,202	2,302
February 28	1,269	700	3,214	360	6,626	246	3,228	2,308
March 7	1,295	680	3,143	357	6,888	263	3,278	2,469
March 14	1,326	625	3,164	437	7,094	232	3,708	2,408

Week ending:	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1959	Total 22 areas 1958
January 10	2,881	440	2,223	310	300	1,196	30,634	27,033
January 17	3,073	430	2,079	284	309	1,226	29,545	26,816
January 24	2,998	397	2,227	342	274	1,118	30,356	28,539
January 31	3,172	433	2,136	375	205	1,108	31,343	28,826
February 7	3,044	396	2,127	339	240	1,074	31,573	29,209
February 14	3,276	412	2,214	382	215	1,163	32,756	29,495
February 21	3,377	511	2,242	393	234	1,130	33,258	30,253
February 28	3,392	509	2,178	343	283	1,164	33,787	30,270
March 7	3,580	458	2,471	345	267	1,176	34,722	30,406
March 14	3,713	575	2,419	363	301	1,068	35,944	29,863

QUAD STATE

(Continued from page 6)

child" in the competitive struggle for transportation business, O. H. Zimmerman, vice president, Illinois Central Railroad, Chicago, said.

Mr. Zimmerman indicated that truckers have two advantages over railroads, tax-supported highways and more freedom from regulation.

"Folks think they are getting a bargain in truck rates when a trucker comes to their plant and wants to haul a truck of feed at a low rate back to the same area from where he has hauled a load," he said. "But they are not getting any bargain because they pay in taxes at the end of the year more money for the highways over which that truck operates than they would pay for movement of their commodities with a good sound rail system in the first place."

The $40 billion highway program will result in expenditure of more money than the entire cost of the physical plant of all the American railroads since they were first established, Mr. Zimmerman said. "By contrast, your railroads have never cost one person in this room even 5¢ in taxes. They have stood on their own two feet and paid very substantial taxes to local, state and federal governments—taxes which are used to pay for facilities used by our competition."

Grain men and processors must decide whether they want regulation of transportation as a means of providing orderly marketing, he continued. "Unless regulation is extended to all forms of for-hire transportation of agricultural commodities, the whole system is going to break down. In fact, it is in the process of breaking down now."

Mr. Zimmerman declared that railroads depend a great deal on the grain volume they handle — about 10% of the carload business in the Midwest. He listed some services performed by railroads at no additional cost, such as transit privileges, switching and clerical service in connection with grain inspection and creation of car pools for movement of a crop. "These special services have been worked out over the years to aid in the orderly marketing of grain," he said.

The speaker cited two areas in which differences between grain shippers and railroads have developed, rate increases and abandonment of trains and branch line services. Rate increases have been necessitated by cost increases, he said, and curtailment of services has resulted only in instances where the branch line or services have been first abandoned by the public.

"Only you will decide whether the partnership of agriculture and the railroads is a necessity for the stability of the grain business and the orderly marketing of agricultural commodities," Mr. Zimmerman concluded.

Farm Problem

"Why Congress Hasn't Solved the Farm Problem" was the topic of former Sen. Guy M. Gillette, Cherokee, Iowa. Congress has had plenty of proposals, but none has had appeal as a solution, he said. Farm organizations have different views on how the problem should be met, and there is great disagreement among others concerned with it, also.

Farmers themselves hold widely divergent views on the subject, Sen. Gillette said. He cited a recent poll taken among central Iowa farmers. Approximately one fourth of the group said that present programs are satisfactory, another 25% said that soil bank payments and allotments should be eliminated and 100% of parity supports put into effect, 23% said they preferred direct subsidies and 27% believed that all government controls should be eliminated.

The ex-senator, who spent 10 years on the Senate Agriculture Committee, declared that it is "contrary to all that is reasonable and proper" to keep the price up on one type of raw commodity (feed grains) and not on other agricultural products such as poultry.

Elimination of unnecessary, unjust and unreasonable processing and transportation costs would go a long way toward helping to solve the farm problem, the speaker said.

Associations' Role

Trade associations function as an extension of one's individual business enterprise, Clif C. Anderson, secretary of the Farmers Elevator Association of South Dakota, said. His topic was "Why Associate with Anybody?"

"We associate with others to accomplish something we can't accomplish alone," Mr. Anderson said. As examples of what associations can do he listed the following: Following legislative development (you can't study every bill introduced, and your association can give you enough information about proposals so that you can form intelligent opinions about them); assisting government in making decisions affecting the trade.

Publication of directories, arrangement of group insurance policies and similar association activities are "frosting on the cake," Mr. Anderson said. The real function of trade associations is communicating with people.

"The smaller the firm, the bigger stake it has in its trade association," Mr. Anderson said.

He predicted that the Uniform Grain Storage Agreement probably would be renegotiated next fall and that the "government would be a tough bargainer."

The efforts of the Grain & Feed Dealers National Assn. to determine needs of its members were described by Madison Clement, Clement Grain Co., Waco, Texas, and president of the GFDNA. The organization has been holding a series of regional directors' meetings to which officers of state and regional grain and feed associations have been invited. Sessions have been held in Kansas City, California, Portland, Minneapolis, Chicago and Washington.

Interest of participants in the meetings has been centered on grain sanitation, the storage situation and transportation problems, Mr. Clement reported.

Mr. Clement predicted that there will be more changes in railroad freight rates since "railroads are showing a real interest in maintaining their business. It doesn't make sense," he said, "that trucks can haul cheaper than railroads on long hauls."

Storage Needs

The grain storage industry appears to be in a good position to handle the 1959 takeover of Commodity Credit Corp. grain except in the Minneapolis area, Ray Pollock, director of the grain division of the Commodity Stabilization Service, Washington, reported.

Last fall it was estimated that the shortage of space would be as high as 823 million bushels. However, Mr. Pollock said, by encouraging farmers to build more storage with the help of special loans and getting more grain under reseal programs, the deficit of storage was trimmed down.

He said it is now believed that the deficit is "not bad," and he advised grain warehousemen not to build more storage unless they are sure it is needed in their area. He urged, too, that elevator operators help encourage farmers to provide storage for "more of the grain they are growing too much of."

Most of the shortage in the Minneapolis region, totaling an estimated 110 million bushels, is centered in North Dakota. Between 1950 and 1959 the following increases in capacity eligible to store government grain ocurred, Mr. Pollock said: Texas, 257%; Illinois, 254%; Kansas City area, 261%, and Minneapolis area, 127%.

Aeration Systems

Proper design and installation of grain aeration systems were described by George A. Rolfes, Rolfes Grain Aeration Companies, Boone, Iowa.

"You should have a system to suit your needs," Mr. Rolfes said. "All aeration equipment sold today is not adequate. Sometimes improper fans are used, and installation is not properly located. Also, automatic controls are desirable. A good system will handle fumigation needs as well as aeration."

The speaker suggested these as "things to watch out for" in flat storage installations: Proper location and size of ducts and selection of fans. Different types of fans are needed for flat storage than for vertical storage, he said.

A panel discussion, led by Bob Skinner, executive secretary of the Western Grain & Feed Association of Iowa, concluded the program. State laws affecting grain bank operations, costs of government storage of grain in comparison with grain trade storage charges, the outlook for improved boxcar supplies and other topics were discussed.

Lloyd Larson Honored By Veterinary Group

KANSAS CITY—Lloyd S. Larson, executive vice president, Midwest Feed Manufacturers Assn., Kansas City, has received a citation from the Missouri Veterinary Medical Assn. "for outstanding service in your field and the many contributions you have made to the field of veterinary medicine." The citation also reads: "Your interest, steering hand and driving force made the first Midwest Veterinary Nutrition Conference a tremendous success."

FREIGHT CUT

(Continued from page 6)

truck and barge. Such plans have now been completed but have been held up temporarily until we determine what action the rail carriers propose to take to meet the competition via truck and barge.

"It is our considered opinion that in order for the rail carriers to meet the competition of truck and barge costs, that present rail rates must be reduced at least 30% in the total cost from the origin of the alfalfa at dehydrating points to the ultimate destinations in Southeastern Territory."

Other Rates Reduced

The ADM statement went on to note that transportation-wise, there is no reason why alfalfa meal should be treated any differently than the other vegetable meals which recently were the subject of freight rate reductions to meet truck and barge competition.

National Alfalfa Dehydrating & Milling Co., Consolidated Blenders, Inc., Midwest Alfalfa and other alfalfa processors were also represented at the meeting. Joseph Chrisman, executive vice president of the American Dehydrators Assn., and Ray Cox, Acme Traffic Service, represented the ADA members

Railroad representatives took the material that was presented, which will be supplemented by information on plant locations and production figures furnished by Mr. Chrisman, under advisement. These facts and proposals will be presented to other railroad officials in Chicago next week. From that meeting could come a firm recommendation that would then be submitted to the Interstate Commerce Commission for approval.

Fire Damages Building At Arbor Acres Farm

GLASTONBURY, CONN.—Fire resulted in extensive damage to the blood-typing laboratory, cafeteria and offices of the research department at the main building of Arbor Acres Farm, Inc., Glastonbury.

Flames destroyed large quantities of new egg cases, chick boxes, pads and office supplies. None of the poultry buildings, hatcheries or main office areas were affected.

A company announcement indicated that normal operations have not been interrupted. "All research and office work continues as usual, and all shipments of breeder chicks from the Glastonbury plant are on schedule," a company spokesman said.

Fire Destroys Mill In Newton, Kansas

NEWTON, KANSAS — An early morning fire March 17 destroyed the Newton mill of the Consolidated Flour Mills Co., Wichita, Kansas. The adjoining elevator was saved, but there was no report on the amount of damage to wheat stored in the structure.

The mill had a rated capacity of 2,500 sacks a day, and a wheat storage capacity of 310,000 bu. Its terminal capacity is 150,000 bu., and its country storage capacity is 398,000 bu.

It is believed the fire started in a dust collector or motor.

N.H. Meeting

DURHAM, N.H.—the spring meeting of the New Hampshire Poultry Growers' Assn. will be held April 1 at the Memorial Union building on the University of New Hampshire campus here.

One of the highlights of the session will be a talk by Dr. J. L. Roundtree, veterinarian, Samuel Lipman Sons, Augusta, Maine, on vaccination programs, coccidiosis control programs and nutrition programs.

California Feed Law Hearing Set April 16

SACRAMENTO—The Bureau of Field Crops, California Department of Agriculture, will hold a hearing at 2 p.m., April 16 at its office in Sacramento on proposed changes in regulations pertaining to the California feed law.

The bureau announced that none of the changes is of a major character and that most already have become standard operating procedure. They include such items as clarifying restrictions on re-use of bags, changing various definitions of products and simplifying requirements for vitamin claims.

It also is proposed to adopt new sections giving requirements for labeling feeds with antibiotics and definitions for non-protein nitrogen, almond hulls, fats and oils, molasses, safflower products, sesame products and sunflower products.

Dehydrators to Meet

MINNEAPOLIS—Alfalfa dehydrators in Minnesota, North Dakota, South Dakota, Iowa and Wisconsin will meet at the Minneapolis Athletic Club at 10 a.m. March 24. National officers of the American Dehydrators Assn. will be at the meeting.

MARKETS

(Continued from page 2)

Soybean meal halted its decline and was unchanged to 50¢ higher. Gluten meal and linseed oil meal were unchanged. Cottonseed oil meal held about steady.

Fish meal showed no further signs of weakness but meat scraps continued to decline and were off $2.50.

Hominy gained $1 in sympathy with corn. April deliveries of distillers' grains were quoted $1 off from March. Brewers' grains were unchanged. Gluten feed declined $2 and alfalfa meal held steady.

Millfeed sales were quiet.

Running time of formula feed manufacturers last week averaged 36 hours, unchanged from the preceding week.

Mountain States

Formula feed dealers reported this past week that their formula feed sales were up a little from last week and up considerably from the same time a year ago.

Feeds getting the most demand have been cattle feeds due to an increase in cattle in feedlots. Most of the feeds have been purchased by dealers for immediate sale rather than inventory buildup, it is reported.

Southeast

The broiler feed business in the Southeast continues to improve a little each week due to the increasing number of chick placements on the farm.

For the week ending March 14, increased placements were 725,000 chicks. Georgia's placements for the week were over 7 million. The north Georgia broiler market increased 1¢ lb. this week to a firm 17¢ f.o.b. the farm, and many believe that prices will continue to improve, showing a profit to the growers.

The demand for dairy and cattle feed continues on the slow side. This is attributed to excellent weather and good pastures.

Large supplies of corn at Guntersville and Chattanooga terminals resulted in prices dropping an additional 1¢ bu., making delivered prices to the north Georgia broiler area $1.40 bu.

Soybean meal increased by as much as $3 ton as a result of good trading activity on the exchanges. However, producers of soybean meal reported only nominal business.

Cottonseed meal prices remained practically unchanged with very little demand. Good demand from the southwest has caused cottonseed hulls to advance 50¢ to $1 this week, with very few offerings. Citrus pulp prices remain unchanged at $35 to $40 f.o.b. Florida producing mills. Demand is only fair.

Ohio Valley

In spite of a lot of wishful thinking on the part of every resident of this area, winter weather has refused to give way to balmy spring temperatures. Instead, last week the heaviest snow storm of the nearly-departed winter season was inflicted on the Ohio Valley to snarl traffic so much that delivery schedules of feed manufacturers were seriously disrupted. Cold and blustery weather with intermittent snow flurries this week continued to put a damper on seasonal farm activities.

Livestock was generally in short supply because of unseasonable weather, while prices of all grades of cattle, hogs and sheep held steady to stronger. Also, supplies of poultry and eggs continued below market requirements, although prices did not advance appreciably.

Area rendering firms reported considerable fall-off in demands for their products this week, and this situation was reflected in price drops of as much as $5 ton for meat scraps and tankage.

As the result of the decidedly unsettled weather and delivery conditions, sales of formula feeds during the past week have been definitely on a hand-to-mouth basis. They are expected to continue this way until there is a favorable break in the weather situation.

Pacific Northwest

Feed ingredient quotations followed an irregular trend during the week's trading throughout the Pacific Northwest.

Feed mixers generally found slightly lower listings for wheat millfeeds and whole barley while animal protein feeds and whole corn posted moderate price gains at Portland and Seattle.

Trade sources indicated that general trading was on the spotty side and most buying interest was confined to a nearby shipment basis. Available supplies appeared adequate for the current demand and were not pressed for disposal.

Most terminal mixers reported that a large part of current needs was being filled from inventories or earlier buying orders.

There continues to be a good movement of formula feed with turkey and poultry mixes on the volume side. Turkey hatchings continue heavy in the area and breeders are still holding onto their laying flocks.

Wheat millfeed and whole barley quotes closed the week 50¢ ton lower in front of a slow trade while meat and bone meal listings gained $2.50 ton. Whole corn values advanced 75¢ ton. Soybean meal for forward delivery brought a $1 to $3 ton premium.

Pacific Northwest alfalfa hay trading turned slow near the week's close, but quotations generally held unchanged with U.S. No. 2 green priced at $32 to $33, baled, delivered at Portland and Seattle.

Dairymen reported increased utilization of pastures throughout Oregon and Washington with reduced supplemental hay feeding. Accumulated stocks were fairly substantial with current demand limited to fill-in buying.

Quotations for choice fed steers gained 50¢ at North Portland livestock yards where they climbed to $29, equal to the high of June, 1958.

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